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Information Division
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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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PROCUREMENT OF ARMY AIRCRAFT DURING 1936

The Secretary of War, Honorable Harry H. Woodring, announced recently that 506 airplanes had been delivered to the Army Air Corps by contractors during the calendar year 1936. This is the largest number of airplanes which has ever been delivered during any year since the adoption of modern all-metal construction. This simple statement of fact, however, by no means gives the whole story.

The cost of the airplanes necessary to equip a properly balanced air force of a given airplane strength has been increasing steadily ever since the War, and will probably continue to do so. This increase in cost has been due to four principal causes:

First, it costs more to build a large airplane than a small one.

Second, the proportion of Bombers (large airplanes) to Pursuit (small airplanes) has been increasing steadily from the proportion of about one Bombardment airplane to four Pursuit airplanes in 1926 to about 11 Bombardment airplanes to 9 Pursuit airplanes at the present time. The principal underlying reasons for this are that close Pursuit support of modern long-range Bombardment can no longer be provided clear to the target, and that the high speed and the great defensive fire power of modern Bombers make close support by large numbers of Pursuit airplanes no longer so vitally necessary as heretofore. Our Pursuit, which are thereby relieved of this defensive mission, become available for use in the defense of our own forces against the attack of hostile aircraft.

Third, since the World War there has been a progressive development from the wood-wire-fabric biplane through welded steel tubular construction to the modern riveted "dural" monoplane. To achieve the high performance required in modern aircraft necessitates meticulous care in the manufacture of many odd shapes, in order to attain the best streamlining, counter-sunk rivets and the elimination of every other possible impediment to smooth air flow. This all requires large expenditures for heavy machine tools and elaborate dies, jigs, fixtures, etc. - most of the latter equipment being useless on subsequent contracts.

To secure the maximum value from the large expenditure which the contractor has made for such equipment the Secretary of War has adopted the policy of letting large airplane contracts for delivery during a period of two years. The saving thereby effected is passed on to the Government, and he has thus been able to secure the maximum number of modern aircraft for the money expended.

Fourth, in addition to the cost, which is inherent in the construction of the airplane itself, the modern military airplane requires many instruments and much equipment scarcely thought of 15 years ago. For instance, at the close of the World War, a pilot who wanted on his instrument board more than a compass, altimeter, tachometer and water thermometer was considered just a little eccentric. Today, a modern two-engined military airplane may have over five times that number of instruments, controls, etc., costing over $5,000, and will also have flaps, brakes, complete radio equipment, and many other devices not in use on military aircraft of the post-war period.

For the money being expended today for modern Army aircraft the Government could buy almost twice as many planes of the models of 10 years ago, but the modern planes are many times more effective.

The same condition has occurred in building construction. For instance, a modern home with electric lights, gas-hot water furnace, three baths, asbestos insulations and air conditioning costs several times what the same size house would

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have cost our grandfathers, but we are more than willing to pay for the increased comfort provided by modern construction. Similarly, our modern Army aircraft, manned and maintained by an air force properly balanced in all its component parts are much more effective than a force of many times that number of obsolete aircraft.

Our aircraft designers are second to none. Our plane industry can and does build the best airplanes in the world today. It has been and will continue to be the policy of the Army to provide the Air Corps with the best equipment available - the amount of such equipment being limited to that procurable with appropriated funds.

For each dollar expended on Army aviation the country is getting a greater value in National Defense per dollar expended than ever before. It would be a great mistake to permit a craze for mere numbers to force us to accept less effective aircraft, although a greater number could be procured for the money.

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P U R S U I T A V I A T I O N

By the Langley Field Correspondent

There are in this country today three Pursuit Groups, the First, Eighth and Twentieth. All are a part of the General Headquarters Air Force. During the expansion of the Air Corps, the Eighth Pursuit Group was made an active operating unit and stationed at Langley Field, Va. It was composed of three fighting squadrons, a Headquarters Squadron and the administrative personnel who are designated as Group Headquarters Squadron. In addition to these, the 37th Attack Squadron has been attached for administrative purposes only. Since Attack tactics differ from Pursuit tactics, we will leave the explaining of Attack to those who are better qualified to explain it.

The three fighting units of the Group are designated as the 33rd, 35th and 36th Pursuit Squadrons. These Squadrons were first organized in the Spring of 1917, and were sent to France in the late summer. There they established and became an important part of the American Flying School at Issoudun. What is now the Headquarters Squadron was formed from the old 58th Service Squadron. This organization went to France in the spring of 1918, and was actually employed in three sectors at the front, namely; Lorraine, St. Mihiel and Meuse-Argonne.

Since its organization, the Eighth Pursuit Group has engaged in quite a number of maneuvers. The first of these was the Air Corps Command and Staff Exercises in California in 1933. Next came the gunnery exercises near Miami, Florida, in January, 1934. In the following January, the Group staged an aerial "war" throughout the 4th Corps Area, which is comprised of most of the Gulf and Southern Atlantic States. After a short breathing spell, the Group again moved into the field during the summer of 1935, using the National Guard airdrome at Virginia Beach as its base. Following this came the concentration of all units of the Second Wing at Langley Field. In February, 1936, some of the personnel from the Eighth Pursuit Group took part in the winter test operations in the New England States. This was a most severe test, carried on during a good old-fashioned New England winter. This past summer all Squadrons of the Group held field exercises at Virginia Beach.

At present the Eighth Pursuit Group is equipped with Curtiss P6-E's and Consolidated PB2-A's. The P6-E's are rather small, single-seater biplanes, powered with Curtiss "Conqueror" engines. This engine develops about 675 horsepower, and uses Prestone instead of water for the cooling liquid. The PB2-A's are a much later development. They are two-passenger, low wing monoplanes, powered with supercharged Curtiss "Conqueror" engines. Supercharging and certain other improvements have made these engines produce 700 horsepower.

All of the personnel, from the Group Commander down to the buck privates, are constantly working together to maintain efficiency and morale so that in the event of war they may fulfill the motto of the Eighth Pursuit Group - "Attack and Conquer."

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LANGLEY OFFICERS OBSERVE MIAMI AIR MEET

The Headquarters of the General Headquarters Air Force, Langley Field, Va., was represented at the All American Air Maneuvers by a delegation of four Langley Field officers headed by Major James P. Hodges, who flew to Miami, Fla., to act as observers at the Meet. Due to the rain and low ceilings which visited the eastern seaboard, hundreds of aircraft from all over the country were unable to reach Miami in time for the maneuvers. Hence the Arsenicker Ball, the military fete held annually for Air Corps officers, was attended by few minor guests. Colonel Hugh J. Knerr, Chief of Staff of the GHQ Air Force, then on leave at Miami, was elected Chief War Hawk at the ball. Incidentally, Major Hodges reported that Colonel Knerr was doing well with the rod and reel, recently hooking a 47-pound sail fish.

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SECRETARY OF WAR PRESENTS D.F.C. TO GENERAL ARNOLD

For his achievement in leading a remarkably successful flight of ten Army airplanes from Washington, D.C., to Fairbanks, Alaska, and return, during the summer of 1934, Brigadier General Henry H. Arnold, Assistant Chief of the Air Corps, was presented on January 5th with the Distinguished Flying Cross. The presentation was made by the Hon. Harry H. Woodring, Secretary of War.

General Arnold is one of the Army's pioneer aviators and has to his credit many noteworthy aerial accomplishments. He has been flying for a quarter of a century and is still rated as one of the best of the country's military pilots. He is a native of Gladwyne, Panna., and a graduate of the United States Military Academy of the class of 1907. General Arnold received his first instruction as an aviator from Orville and Wilbur Wright, the inventors of the airplane.

In pinning the decoration on General Arnold, Mr. Woodring said:

"With great personal pleasure I wish to present to you in behalf of the President this Distinguished Flying Cross. This award is made by reason of your magnificent leadership in the great flight of ten Army airplanes to and from Alaska. However, it serves also to call attention to your long and brilliand record of flying achievements which began a quarter of a century ago and still continues.

As a pioneer aviator twenty-five years ago you were a contemporary of the Wright Brothers, Glenn Curtiss and others, whose inventions and experiments first conquered the air. Among your associates were many brilliant and daring flyers who long since have made the supreme sacrifice for the advancement of the science of flight. Among your early amazing achievements was a successful cross-country flight of a dozen miles that won for you the coveted Mackay Trophy. At that time this was a greater feat than a round-the-world flight would be today.

I am sure, General, that I speak not only for your associates in the Army, but also for all Americans, in congratulating you on this well deserved award and in expressing the hope that the country will continue to have your splendid service for many years."

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GENERAL PRATT BECOMES PERMANENT BRIGADIER GENERAL

By the Langley Field Correspondent

The first Army Air Corps officer to achieve the distinction of being appointed a permanent general officer of the line of the Army is Brigadier General Henry C. Pratt, commanding the Second Wing of the General Headquarters Air Force. General Pratt's appointment as a Brigadier General, with rank from January 1, 1937, was announced in War Department Special Orders of that date. He was assigned to duty with the Air Corps in his present position as Wing Commander, Second Wing, GHQ Air Force, Langley Field, Va.

This appointment of an Air Corps officer marks, in a general way, the coming of age of the Air Corps as an arm of the service to contain officers with sufficient service to be eligible for such appointment.

General Pratt was born at Fort Stanton, New Mexico, September 2, 1882. He was appointed to the United States Military Academy from Wisconsin on August 1,1900, and upon graduation on June 15, 1904, was appointed a second lieutenant of Cavalry. He was promoted to 1st Lieutenant on March 30, 1911; to Captain, July 1,1916; to Major, Regular Army, July 1, 1920; to Lieut. Colonel, June 20, 1928, and to Brigadier General, temporary, July 17, 1930. He was relieved from duty as Assistant Chief of the Air Corps on July 16, 1934, and reverted to his regular rank of Lieut. Colonel. On March 2,1935, he was again appointed Brigadier General, temporary.

General Pratt first served with the 4th Cavalry at Fort Leavenworth, Kansas, until October 15, 1904, when he was transferred to the Presidio of San Francisco, where he was on duty until September 5, 1905. He then served at Fort Snelling, Minn., to April 9, 1909. He was aide to President Taft and assistant to Officer in Charge of Public Buildings and Grounds, part of which time he served at San Antonio, Texas.

He was aide to Major General Arthur Murray at Washington, D.C., to March 9, 1912. Upon his relief from that detail, he continued on duty at the Presidio with the 1st Cavalry, to May, 1913. He then served at Yosemite Valley to November, 1913; and at the Presidio of Monterey, Calif., until December 31, 1915. He was aide to Brigadier General George Bell, Jr., at San Antonio, to May 15, 1916, and at El Paso, Texas, to October, 1916, when he became Assistant Adjutant of the El Paso District, serving as such until March 13, 1917.

Ordered to Hawaii in March, 1917, General Pratt was assigned to duty with the 4th Cavalry at Schofield Barracks. He was transferred to the Signal Corps for duty with the Aviation Section on August 5, 1917, but continued on duty with the 4th Cavalry until October 3, 1917. Re-

(Continued on Page 4).

THE SECOND BOMBARDMENT GROUP
By the Langley Field Correspondent

The 2nd Bombardment Group, GHQ Air Force, was organized at Moulon, France, September 10, 1918. It consisted of the 96th, 20th and 11th Day Bombardment Squadrons, the 464th Construction Squadron and the 12th Photo Section.

The 96th Squadron was the veteran of the organization, for it had been engaged in offensive operations against the Germans since May 18, 1918. On September 18, 1918, the 166th Bombardment Squadron (which later became the 49th, now a unit of the Second Bombardment Group) joined the Group to complete the organization.

The record of the Group in action was an enviable one. It participated in the operations in the Toul Sector, Lorraine, St. Mihiel, and the Argonne-Meuse first and second offensives. The results obtained in the face of difficulties, due to obsolete equipment and the superior enemy "Circuses" which were thrown into the fight against them, are testified to in the numerous citations which the Group received.

The Group was ordered disbanded on December 12, 1918, but the final demobilization took place in February, 1919, at Mitchel Field, New York. It was reorganized at Ellington Field, Houston, Texas, in August, 1919. In June of 1922 the Group was transferred to Langley Field, where it has since become a part of the life of Tidewater, Virginia.

The peace-time accomplishments of the Group do not need to be recited to the people in the vicinity of Virginia. Too well they recall the great massed flights of the period 1926 to 1929, when the Squadrons demonstrated their ability to operate swiftly and accurately either on this coast or the West coast within a few hours after concentration orders were received.

Errands of mercy have been performed willingly and often in the face of great danger, as witness the relief of Tangier and Smith Islands, which were ice-bound this past winter, causing a serious food shortage; and the heroic work of Major Barney M. Giles, Lieut. Patrick, Staff Sgt. Hamilton and Corporal Connor, in the rescue of C.C.C. men stranded at night on ice floes in terrible weather, for which these peace-time heroes were awarded the richly deserved Distinguished Flying Cross.

Upon the advent of the GHQ Air Force, the methods of operation and the equipment available increased in efficiency the work of an organization whose history was rich and whose morale was of the high calibre that made this unit so outstanding during the trying days of the World War.

So today, the citizens of the Peninsula may see swift ships speeding over their peaceful homes and quiet villages, and know that the officers and men who are flying and maintaining them are devoting their lives and sincerest efforts to keep this peaceful land safe from the blight of war. That is the reason for the continued and efficient training in navigation, bombing and gunnery, and for the roaring motors in the thrilling formations that slide so easily through the skies.

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Line Appointment for General Pratt
(Continued from Page 3).

turning to the United States the latter part of October, 1917, he served at Kelly Field, Texas, to November 13, 1917. After duty as Post Adjutant at Call Field, Wichita, Texas, to January 26, 1918, he served with the Division of Military Aeronautics at Washington until October 10, 1918, when he sailed for France and was on temporary duty with the A.E.F. in connection with special aviation until December 4, 1918. Returning to the United States the same month, he became a member of the Board of Organization at Washington, on which he served to January 13, 1919. He commanded Kelly Field to March 15, 1919, and then served with the Advisory Board of the Air Service until August, 1919, part of which time he was Assistant and Acting Executive.

General Pratt attended the General Staff College, Washington, D.C., to June 30, 1920, and during the three months following he commanded Kelly Field. After duty as Air Officer of the 8th Corps Area, Fort Sam Houston, Texas, to April 25, 1921, he attended the advanced bombardment training course at Kelly Field, graduating on June 30, 1921. Completing the course at the School of the Line at Fort Leavenworth, Kansas, in June, 1922, as a distinguished graduate, he next completed the one-year course at the General Staff School at Fort Leavenworth (graduating August 15, 1923) and the one-year course at the Army War College, graduating on June 30, 1924.

General Pratt was Chief of the Training and War Plans Division, Office of the Chief of the Air Corps, to May 31, 1928, following which he commanded the post of Mitchel Field, N.Y. Ordered to duty in Hawaii in July, 1929, he served as Department Air Officer to July 19, 1930, when he returned to the United States and was assigned to duty as Commanding Officer of Wright Field, Ohio. On March 10, 1935, he assumed command of the Second Wing, General Headquarters Air Force, the headquarters of which is at Langley Field, Va., where he is at present serving in that capacity.

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LANDINGS WITHOUT WHEELS

As the Selfridge Field News Letter Correspondent whimsically puts it, further test of the advisability of landing a PB-2A with wheels in the retracted position was a recent occurrence. He goes on to say that 1st Lieut. Murray C. Woodbury, en route to Fort Leavenworth, Kans., in an airplane of this type for the purpose of engaging in a tactical problem, was flying at about 2,000 feet and had reached a position about 50 miles east of Fort Leavenworth when the engine "threw" connecting rods in both banks of No. 2 cylinder, causing dense smoke and apparent fire.

Lieut. Woodbury at once adjusted the stabilizer, throttled the motor back and called to his passenger to "bail out." The latter, Private P.G. Vaughan, 3rd Air Base Squadron, without hesitation climbed over the side and hung by his hands along the fuselage. At this moment, Lieut. Woodbury, who was out on the wing beside the cockpit, decided there was no fire and that he would attempt a forced landing. He motioned Private Vaughan back into the cockpit, but the latter was unable to get back and dropped free.

Lieut. Woodbury managed to get back into the cockpit and, in a shower of oil and smoke, set the plane down on its belly in a small plowed field.

Possibly, under the stress of the occasion, Lieut. Woodbury had no time to lower the landing wheels. It is more than likely, however, that, finding no suitable landing place in the immediate vicinity, he calculated a "belly landing" in a small area would be the safest after all, as the plane would skid along the ground for only a short distance, whereas a landing on the wheels might result in their striking a rough spot, with consequent nosing over of the plane, injury to himself and greater damage to the airplane.

As it turned out, the plane suffered no damage beyond a bent propeller and a crushed prestone radiator.

Private Vaughan, in the meantime, had opened his chute about 100 feet from the ground and landed safely. It was his first airplane ride since enlisting. When asked why he delayed so long in pulling the rip cord, he unperturbedly replied that the Supply Sergeant had told him not to lose his gloves and he had a hard time finding the rip cord with them on. He still has the gloves and also the honor of being the first to get away with "bailing out" of the rear seat of a PB-2.

Selfridge Field pilots are high in their praise of Lieut. Woodbury's courage and coolness under the circumstances. Our Correspondent states that the slight damage suffered by the airplane was [illegible] Lieut. Woodbury's first accident in approximately 3,000 hours of flying, both military and commercial, in the last 18 years, and that the conduct of both the pilot and passenger in this emergency is a credit to the Air Corps.

From Hawaii comes another story of a safe landing, minus wheels, of a B-12A Bombardment airplane. Shortly after taking off from Luke Field and while raising the wheels, the right wheel assembly fell off and hit the ground in the rice fields near Pearl City. Lieut. Chester P. Gilger, who was flying in formation with Lieut. Norman L. Callish, both being members of the 72nd Bombardment Squadron, notified the latter by radio of the accident and also called the ground station.

What will he do? That was the question everyone was asking. Would he land in the water near Ford Island, in the cane field, on Luke Field or Wheeler Field, or resort to his parachute? Lieut. Callish was notified to use his own judgment. However, if he decided to land on the ground, it was recommended that he land at Wheeler Field.

Knowing that belly landings had been made numerous times without serious damage to the airplane or personnel, Lieut. Callish chose the latter course, and when all was in readiness came in and made a beautiful landing without a bounce. The tail of the plane rose momentarily as he hit the ground and then settled back into a nice slide. There was no tendency to ground-loop. The only damage done was to the propeller tips and to the bomb-bay doors.

New propellers were soon installed, and the plane was flown back to Luke Field for repairs by the Hawaiian Air Depot.

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NICE GOING IN AN O-25 PLANE

In reading accounts of various flights in the News Letter, Kelly Field desires to submit the following as a mark for others to shoot at, in view of the fact that it was performed with obsolescent - equipment - an O-25.

Captain R.E. Randall, on an extended navigation training flight between classes recently, was delayed by bad weather at Boston. In order to be back for the beginning of the new class on Monday morning, he departed from Boston at 7:15 a.m. on Sunday, and began bucking head winds which prevailed during the remainder of the flight to Kelly Field. After being delayed two hours in New York, he pushed steadily homeward. Daylight waned one hour east of Maxwell Field, and the remainder of the flight was made after dark, arriving at Kelly Field at 2:30 a.m. Monday morning. Continuous radio communication was maintained with Air Corps and Dept. of Commerce stations 80% of the time.

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COLOMBIAN TROPHY PRESENTED TO 3RD GROUP

Barksdale Field, Shreveport, La., was the scene on December 9th of the presentation of the Colombian Trophy to the Third Attack Group, GHQ Air Force, by Major General Frank M. Andrews, Air Corps. This beautiful silver Trophy, which was presented to the United States by Major Benjamin Mendez, of the Colombian Air Force, in the name of the Republic of Colombia, is to be awarded annually to the Group of the GHQ Air Force having the lowest accident rate per thousand hours of flying for the preceding training year. The Third Attack Group became the first custodian of the Trophy by virtue of having had only two accidents in 9,193 hours, a rate of .218 per thousand hours.

General Andrews flew from Langley Field to Barksdale Field in the giant Douglass command transport. He was accompanied by several GHQ Air Force staff officers, Private Hiette S. Williams, his co-pilot, and a crew chief. The General carried the Trophy in the plane with him to Barksdale Field.

In his speech of presentation, General Andrews said in part:

"Military flying is a dangerous profession. Accidents have always occurred and will continue to occur, but a certain proportion are preventable. We of the Air Corps gladly accept all necessary risks and, in spite of the loss of loved and respected comrades, we carry on.

In the past few years, airplane speeds have tremendously increased, due principally to greater horsepower and to cleaner design. Both of these factors have increased the danger incident to flying, for the reasonsthat greater horsepower requires more thorough understanding and greater care in engine operation; cleaner designs have raised the stalling speed and required the installation of flaps, and both factors have increased the number of cockpit gadgets and have made 'cockpit trouble' something that can be avoided only by the minutest care and attention to detail."

The presentation ceremony was followed by an inspection of the personnel of the Third Attack and Twentieth Pursuit Groups, and by an aerial review of both Groups by General Andrews and Brigadier General Gerald C. Brant, Third Wing Commander. Shortly thereafter, General Andrews and his staff left for Langley Field, where he resumed his duties at General Headquarters Air Force Headquarters.

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During November, 1936, the Engineering Department of the San Antonio Air Depot, Duncan Field, Texas, overhauled a total of 21 airplanes and 75 engines and repaired 17 planes and 25 engines.

FIELD EXERCISES BY 9TH BOMB. SQUADRON

The 9th Bombardment Squadron recently returned to Hamilton Field from a most successful field exercise at Stockton, Calif. Sixteen officers, five Flying Cadets and ninety-five enlisted men participated, and a week of perfect weather made possible a diversified, interesting and complete training maneuver. A very marked improvement in field technique is being accomplished with repeated practice. The smoothness of operation under field conditions is the result of the diligence, enthusiasm and hard work of all those participating.

Under the direction of Captain K.N. Walker, the 9th Bombardment Squadron participated in practice bombing, formation gunnery and interception problems. One of the most interesting missions was an attack against the target at Muroc Dry Lake. Nine B-10B airplanes, loaded with 300-pound "live" bombs, conducted the attack. Both day and night flying was conducted, and every mission was featured by a practice "Fog Flying Mission" for training in instrument flight. The procedure for this valuable training is becoming routine for this Squadron. At any time during the conduct of a mission, a fog condition is simulated. The squadron leader will announce a compass course, the duration of the flight and air speed, after which each pilot of the formation goes "under the hood" and, at one minute interval and designated altitudes, proceeds to the rendezvous. With practice, the maneuver is easily and successfully accomplished, and the training is invaluable.

Baseball and volleyball games, gas mask drills, and songs around night camp fires made the days busy, instructive and entertaining.

"The Stockton Chamber of Commerce, as well as many of the local business organizations did much to make the off duty hours most enjoyable," says the News Letter Correspondent, and he adds: "We have been assured that the welcome sign will always be out for the Air Corps at Stockton."

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The last few weeks of the past year were busy ones for the members of the 7th Bombardment Group at Hamilton Field, Calif. After completing maneuvers in the Pacific Northwest, all squadrons returned to their base and were immediately ordered to take to the field in individual squadron maneuvers, using different outlying fields as their base of operations.

Judging from reports and comments by the personnel of all the squadrons, much benefit was derived, both in military tactics and social contact.

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THE Hq. & Hq. SQUADRON, EIGHTH PURSUIT GROUP, GHQ AIR FORCE

This Squadron was organized September 1, 1936. The components from which the Squadron was created consisted of the 58th Service Squadron, the old Headquarters Detachment of the 8th Pursuit Group and various other units stationed at the Langley Field Air Base. Under the present reduced tables of organization, the Squadron at the present time consists of seven officers and 77 enlisted men. Of this number of officers, four are members of the Group Staff and three are in the Headquarters Squadron proper.

The squadron organization as it is set up by tables of organization consists of four main divisions as follows: Group Headquarters and Communications Section, Headquarters Section, Headquarters Squadron, Flight Section and Transportation Section.

First Lieut. John E. Bodle, Air Corps, is Commanding Officer of Hq. and Hq. Squadron, while 1st Lieut. D.D. Hale is Adjutant and Flight Commander, and 2nd Lieut. Joseph H. Wilson, Air Reserve, Supply and Mess Officer, Assistant Flight Commander and Transportation Officer.

The Group Headquarters and Communications Section furnishes to the Group Commander all the personnel to operate Group Headquarters, such as administrative personnel, operations, engineering and technical, and communications personnel - 28 men.

The Headquarters Section of Headquarters Squadron constitutes the administrative personnel of the Squadron and includes the First Sergeant, personnel clerks, Mess Sergeant and cooks - 14 men.

The Flight Section has the direct care and responsibility of the airplanes assigned for the use of the Group Staff officers. All classifications of trades specialists are carried in this Section, such as Airplane Mechanics, Engine Mechanics, Aircraft Metal Worker, Aircraft Instrument Mechanic, Technical Clerks, etc. - 13 men and 3 airplanes.

The Transportation Section has the care and responsibility of all the tactical transportation assigned to the Group. At the present time this consists of 27 pieces. As far as practicable, drivers for these vehicles are furnished from the men in the Section, but when the Group takes the field as a Group, other drivers have to be brought in as needed from the various squadrons - 16 men.

So much for the organization of the Squadron. Many interesting things are daily being done in the Squadron, of which a few may be mentioned, as follows:

At the present time the Squadron is maintaining an XA-14 airplane which has been loaned to the Group from Wright Field for certain tests to be accomplished under the direction of GHQ Headquarters. A bi-motored, low-wing monoplane of monocoque construction, all the wheels are fully retractable into the fuselage. It has two Wright "Whirlwind" twin-row motors and mounts a 37 mm. gun in the nose between the motors.

Two officers of the Squadron are members of the Group Intercept Board and are working daily on plans and methods to accomplish interceptions by Pursuit on aircraft. A great deal has been learned from the work so far, and the ability of the Board to direct and plot aircraft has increased by leaps and bounds. A system has been worked out and, with greater training on the part of the piloting personnel, a new and almost certain method of ground to air radio control will be an accomplished fact.

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AMATEUR RADIO STATION AT LANGLEY FIELD

Arrangements have been completed to establish an Army amateur radio station at Langley Field, Va., and the station is already in operation. Personal messages may be sent anywhere in the world at no cost whatever. The service will not be used for official purposes but only for the post personnel in their private communications.

While delivery is not guaranteed, the delivery percentage is reasonable compared with commercial service. For Panama, West Coast, Hawaii and the Philippines, the service is excellent, with deliveries nearly 100 percent. For China and Alaska there is fair service in 48 hours.

In general, the service is excellent to all large cities. Delays occur in delivering to small towns where no amateur station, Army or civilian, exists. In the latter case, the messages are mailed from the station nearest the destination. Messages to China must be sent only to personnel of the Army, Navy and Marines.

The station is operated voluntarily by Private William H. Stull, after his hours of regular duty, on the official Army radio net. Private Stull is willing to handle up to 50 messages a day in the order in which they are received.

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Ten new electric gun sights have been installed on P-26's of the 17th Pursuit Squadron, Selfridge Field, Mich., for service test. So far, tests have been conducted on tow targets only, due to the fact that the scheduled gunnery camp at Oscoda was cancelled. The annual ammunition allowance having been expended, consensus of opinion seems to be favorable concerning the new sights, and they are expected to give great improvement in firing on ground targets.

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31ST BOMBARDMENT SQUADRON IN MANEUVERS

The 31st Bombardment Squadron, stationed at Hamilton Field, Calif., recently completed its individual maneuvers, using as the base of operations the airport located at Fresno, Calif. Supplies were transported by plane on the morning of November 30th. Camp was established and a hot supper was waiting for the members of the truck train which arrived after dark.

One of the missions called for the camouflaging of one of the planes. The methods used to hide the plane will not be divulged, but the question - "Was there an airplane located at that spot," asked by a member of the Observation flight sent out to find the plane leaves little doubt as to the success of the methods used. The remainder of the maneuvers comprised routine Bombardment missions.

During the maneuvers, every airplane was available every day, this being made possible by the hard work of the maintenance crew, who worked at all hours of the day and night, simulating wartime conditions. Radio contact was maintained by the field radio station with Hamilton Field, and supplies were replenished without delay.

On Sunday, December 6th, the Squadron held open house for the City of Fresno. It is estimated that 25,000 people attended. "Too much cannot be said for the hospitality of the people of Fresno," comments the News Letter Correspondent. The members of the Squadron were entertained by Mr. McAlpine, a prominent citizen of the community, at a dutch supper. A grand time was had by all. The officers were guests at a dinner given by the Chamber of Commerce. Major Taylor expressed the appreciation of the 31st Squadron for the hospitality extended by the City of Fresno.

Camp was broken on December 8th, and the Squadron returned to Hamilton Field. The maneuvers were very profitable to the Squadron, not only in a military sense but socially as well, for many new friends were gained.

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NEW COMMANDER FOR HAMILTON FIELD

Colonel Davenport Johnson assumed command of Hamilton Field Air Base on November 19th, succeeding Colonel C.L. Tinker who, after completing 30 days leave, was scheduled to sail for New York and then proceed to Washington, D.C., to take up his new duties in the National Guard Bureau.

Colonel Johnson arrived at Hamilton Field in August and was placed in command of the 7th Bombardment Group, relieving Col. Tinker, who commanded both the base and Group forces. Lieut. Colonel G.E. Stratemeyer took over the command of the 7th Bombardment Group recently.

INTER-ISLAND FLIGHTS BY 72D SQUADRON

The 72nd Bombardment Squadron, Major Idwal H. Edwards, Air Corps, Commanding, took off from Luke Field, T.H., for Hilo, Island of Hawaii, on December 14th, with seven Keystone Bombers, two BT's and one escort Amphibian on one of the periodic inter-island training flights.

After a battle against a NE trade-wind of gale force for 4½ hours, the flight landed safely at its destination, 220 miles away. Anyone who has wrestled a walloping B-4A or B-5A across the Alleghenies on a windy day will have a faint idea of the activities of the pilots as they passed the lee of Maui.

The following day was spent in inspecting the natural wonders of Kilauea Crater and its surroundings. On December 16th, the Squadron split into two flights, five Bombers and the Amphibian returning as far as Suiter Field, Upolu Point, Hawaii, while the two remaining Bombers and the BT's, flown by pilots who were on their first inter-island flight, circled the island via Morse Field, South Cape, where a landing was made in the teeth of a 50 m.p.h. gale.

Describing the take-off, an observer said: "The Keystones, when given the gun, raised their tails to the position of 'Attention' and then jumped into the air." Enroute to Upolu Point along the Kona Point, a water spout was reported. After gassing at Suiter Field, the reformed Squadron took off and arrived at Luke Field without incident, covering the 130 miles in one hour and 30 minutes, which is pretty good for a Keystone, as veteran pilots, reminiscing over the long dead past, will recall.

Lieut. Colonel Millard F. Harmon, Jr., Air Corps, who recently assumed command of Luke Field, accompanied the 72nd Bombardment Squadron on this flight. This was his first visit to the outlying islands. The Colonel did not waste all his time looking down the empty throats of extinct craters, but took advantage of the opportunity to go out and bag a brace of pheasants.

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The 11th Bombardment Squadron went to Modesto, Calif., for field maneuvers, leaving Hamilton Field, Calif., December 4th and returning on the 10th. While there, a bombing problem was conducted, using 300-pound demolition bombs on a target at Muroc Lake. A gunnery mission, several combat missions and some night flying completed the tactical work from that field.

During the stay at Modesto, the Squadron was very fortunate in having good flying weather and a neat, well organized camp. The City of Modesto gave excellent cooperation to the Squadron in its work and, in addition, provided everyone with entertainment during the off duty hours.

GAS CONSUMPTION TESTS ON PB-2A AIRPLANES

The 27th Pursuit Squadron, GHQ Air Force, Selfridge Field, Mich., was recently engaged in gas consumption tests on its PB-2A airplanes. Under the direction of Lieut. W.R. Hunt, over 50 hours of flying was performed on this project. Data was obtained for different revolutions per minute, also on air speed and manifold pressure at various altitudes. This data was incorporated in a series of elaborate charts and graphs. All pilots of the Squadron had a hand in obtaining this data. Some of the flying missions necessitated the use of oxygen at the higher altitudes.

At this writing the 27th Squadron is busily engaged in making preparations for the winter tests which have been held in the past for quite a number of years. Just now nothing definitely can be stated as to where these tests will be held. The Commanding Officer, Major H. A. Maxwell, already has detailed officers to various jobs in connection with the preparations necessary for the tests. The issue of all the flying equipment and heavier winter clothing necessary is only one of the tasks to be accomplished. Cold weather maintenance of the airplanes will involve the use of engine covers and heaters, which are now being fabricated at Dayton, Ohio.

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AERIAL GUNNERY PRACTICE BY 94TH PURSUIT

Gunnery practice for the 94th Pursuit Squadron, GHQ Air Force, Selfridge Field, Mich., was in order for a period of two weeks recently. The organization was encamped at Camp Skeel, Oscoda, Mich., the locale of gunnery practice by the First Pursuit Group in years gone by.

The Squadron engaged in both ground and aerial gunnery. Both .30 cal. and .50 cal. guns were fired at ground targets, while only .30 cal. were used on the aerial targets.

For ground gunnery, frequent cross-winds made firing rather difficult. In spite of this fact, better than average scores were made. The aerial gunnery was carried out at the intermediate levels, that is, between the altitudes of ten and fifteen thousand feet. The first week was devoted to this type of flying, and all pilots filled their quota of intermediate firing.

The maneuvers were successful in every detail. The work in all departments went off smoothly, little difficulty being experienced with the equipment and there being no delays due to weather. The Squadron returned home happy that their mission was completed. The personnel felt satisfied that the training and practice which they obtained were invaluable.

ENLISTED MEN LEARN RADIO IN HAWAII

Fifteen enlisted men recently graduated from the Communications School of the 18th Composite Wing at Luke Field, T.H., and returned to their organizations at Luke and Wheeler Fields, where they will attempt to put into practice what has been preached for the last six months. The class originally contained twenty students before low grades began to take their toll.

Classes at the 18th Wing Communications School last six months, with two classes a year. Academic work closely follows that given at the Air Corps Technical School at Chanute Field, Ill., with the following subjects being taught: Electricity, Radio Theory, Antennas, Airplane and Ground Radio Sets of the latest available types, Trouble Shooting, Inspection Methods, Message Centers, Field Telephones and Interphones, Power Equipment and Shop. The average code speed of the class was 20.5 words per minute in five-letter code groups. Instruction in operating radio sets in the air was given, with each student averaging 3.8 hours' flying time as radio operators.

The following students completed the course and were graduated: Privates Green Ball, Roy Ball, Calvin C. Brant, Albert J. Bravo, George M. Beck, Arthur P. Coddington, William A. Cummings, Harold C. Fredericks, Alvin J. Lenox, Stanley A. Mokrozycki, Orle Straley, Saul Udman, Rudolph S. Van Meter, Rovert F. Young and Clarence Zielinski.

The 18th Wing Communications School is under the direction of 1st Lieut. Daniel A. Cooper, Air Corps, with Corporal Raymond L. Dickson and Private Alfred W. Pound as instructors.

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LIEUT. ZILER BRINGS HOME THE -- LAUNDRY

Second Lieut. John C. Ziler, Air Reserve, stationed at Selfridge Field, Mich., is being congratulated by radio fans of the field and laundresses on having established a new record for bringing in a towed target with the minimum altitude.

On December 14th (or was it the 13th?) Lieut. Ziler carefully flew his P-26C back to Selfridge Field with the aerial target in tow, and gracefully dropped the remnants of the frayed and tattered tow target. The elated 17th Pursuit Squadron is displaying the relic with pride as an example of their effectiveness in gunnery practice. Although there were no bullet holes in the target, Lieut. Ziler, in passing over the officers' quarters area, managed to bag three radio aerials and one clothes line (complete, with diapers).

NEW TEXT ON OBSERVATION AVIATION

Captain O.P. Weyland, Air Corps, Chief of the Observation Section, Air Corps Advanced Flying School, Kelly Field, Texas, recently completed a trip by air, during which he visited the Air Corps Tactical School, Maxwell Field, Ala.; the Infantry School, Fort Benning, Ga.; the GHQ Air Force Headquarters, Langley Field, Va.; the Coast Artillery School, Fort Monroe, Va.; Office of the Chief of the Air Corps and Office of the Chief Signal Officer, Washington, D.C.; the Command and General Staff School, Fort Leavenworth, Kansas; the Cavalry School, Fort Riley, Kansas, and the Field Artillery School, Fort Sill, Oklahoma.

Captain Weyland, who is now engaged in writing a new text on Observation Aviation for use at the Advanced Flying School, made this trip for the purpose of conferring with authorities at these schools and stations, to the end that the instruction at Kelly Field in cooperation between Observation Aviation and the various ground and air combat arms be coordinated and improved.

Rapid development of new combat equipment and changes in organization and tactics are materially changing the technique and tactical employment of Observation Aviation. The employment of Observation with an air force demands long-range equipment and special training, especially in navigation. The reorganization of army ground forces into smaller, highly mobile units, largely motorized, with accompanying mechanized forces, will increase the importance of close cooperation with Observation Aviation and will necessitate a high degree of training on the part of the Observation team.

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RECRUITING EASY FOR THIS SOLDIER

Several weeks ago, Private Jeff White, of Langley Field, Va., while visiting his home on pass, convinced two men that the Air Corps at Langley Field was the only opportunity left open for the young man of today. After being duly examined, the two applicants were accepted for enlistment.

Prior to Private White's departure, the Commanding Officer of Langley Field announced that every soldier was a potential recruiter, and that a five-day furlough would be granted to each soldier bringing in an applicant who was accepted for enlistment. This furlough is in addition to the 30 days each year, the amount of furlough time for securing recruits not to exceed ten days.

Receiving the reward of ten days justly due him, Private White returned to his home at Colerain, N.C. Knowing full well that any additional recruits that he brought in on this trip would avail him no more furlough time, he nevertheless decided to emerge from the retail market and handle only wholesale business hereafter.

Equipped only with an ordinary soapbox and the gift of oratory, he made his modest stand, and when he returned to Langley Field he wore a triumphant grin and had six more applicants in tow.

"One wonders," says the Langley Field Correspondent, "what would happen in regard to recruiting on this field if this man was permanently assigned to recruiting duty and would devote all his time in the pursuit thereof, instead of just rounding up eight or ten in his spare moments at home."

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SUB-ZERO ALTITUDE FLIGHT TO KELLY FIELD

Testing long non-stop flights through the sub-stratosphere, ten speedy Pursuit planes from Barksdale Field, La., landed at 12:15 p.m., December 12th, at Kelly Field. The aerial journey of 330 miles required two hours and 15 minutes, including a circle above San Marcos. Although no record was made by the Army planes, the flight was made at an altitude of between 21,000 to 22,000 feet.

The pilots were equipped with heavy leather flying suits, oxygen tanks, and leather face masks. The planes had supercharged engines.

Major Armin F. Herold, commander of the 20th Pursuit Group, who accompanied the flight, said the planes were in sub-zero temperatures for most of the distance, and that cities fifty miles away were visible from the high altitude. Leading the test flight, the first of this type to be made by the Third Wing of the General Headquarters Air Force at Barksdale Field, was Captain M.R. Nelson. The other pilots were Lieuts. W.R. Shephard, G.P. Disosway, D.M. Motherwell, William Eades, C.T. Edwinson, D.C. Strother, R.P. Cork and J.L. Gentry. After the planes were refueled and checked, Captain Nelson led his flight from Kelly Field at 7:15 p.m., via Dallas, for Barksdale Field.

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LANGLEY AIRMEN GO WEST FOR BIG BOMBER

The first ferry crew recently departed from Langley Field for Seattle, Wash., to obtain for the 2nd Bombardment Group the first of the YB-17's. Air Corps personnel comprising the ferry crew consisted of Major Barney M. Giles, Airplane Commander; Captain Cornelius E. O'Connor, co-pilot; 1st Lieut. William O. Senter, Navigator; Tech. Sgt. Charles E. Moslander, Radio Operator; and Master Sgt. Floyd B. Haney and Staff Sgt. Arthur Jolly, mechanics.

"It is not exactly known when the first plane will be ready to proceed to Langley Field," says the News Letter Correspondent, "but we are all looking forward to its arrival"

V-7197, A.C.

COSMIC RAY FLIGHTS

One purpose of the Stratosphere Balloon Flight, made in 1936 by the Army and the National Geographic Society, was to take and record measurements of cosmic ray intensities and influences at all altitudes from the ground to the highest altitude possible to attain, which was 72,395 feet. A good record was obtained from 16,000 feet up, but due to the very rapid ascent and to the loss of batteries which were released as ballast on the descent, no suitable record was obtained from the ground to 16,000 feet. To assist in completing the records, the Army Air Corps was again called upon to make flights for intermediate observations between the ground and 24,000 feet. The flights were made for the U.S. Bureau of Standards and Dr. W.F.G. Swann of the Bartol Research Foundation, at Swarthmore College, Swarthmore, Pa., near Philadelphia.

A Fairchild C-8, Bolling Field's photographic ship, was used to carry the necessary equipment, and was piloted by Captain H.K. Baisley, Photographic Officer at Bolling Field. The same plane was used by Captain Baisley while performing photographic work during the Stratosphere Balloon Flight. Four flights were required to make the necessary recordings, three of which have been completed. The first was a two-hour observation at 10,000 feet, which was made on December 21, 1936. The next day, a one-hour observation was made at 15,000 feet, and on the third day another one-hour observation at 20,000 feet. A fourth observation of 45 minutes' duration at 24,000 feet has yet to be taken.

An interesting account of these observations and their results will be published by Dr. Swann in a future issue of the National Geographic Magazine, along with many interesting photographs taken during the Stratosphere Balloon Flight.

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FIELD EXERCISE BY 88TH RECON. SQUADRON

The 88th Reconnaissance Squadron recently returned to Hamilton Field from a Field Exercise at Redding, Calif., participated in by the entire Squadron. Seven days were spent in the field, three of which were used for search and patrol missions based on an assumed situation, and two on reconnaissance and aerial photography. During the seven days, 162 hours and 45 minutes were flown, making an average of 6 hours and 19 minutes per airplane per day in commission. This was due to excellent weather and the complete cooperation of all members of this command.

The personnel were so busy that two invitations to dinner by the Chamber of Commerce and the Rotary Club had to be regretfully declined. On the last night, the officers of the District Headquarters, Redding CCC District, gave a dinner for the officers and cadets of the 88th Squadron which was thoroughly enjoyed by all.

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COLONEL TINKER LEAVES HAMILTON FIELD

If it had happened in the Philippine Islands it would have been called a despedida, and the well wishes of the other guests would have been expressed to the travelers with the native "Mabuhay." In Hawaii, it would have been called a luau, and that word which has often been called the tenderest of God-speeding farewells, "Aloha," would have sped the guest of honor on his way. But, whatever tongue you may express it in, it is doubtful if any can excel the good old American style in which Colonel C.L. Tinker, erstwhile Commanding Officer of Hamilton Field, Calif., was sped on his way at a farewell dinner given in his honor by the Medical Department at that station on the evening of December 15th.

On the right of the host, Major F.L. Pratt, M.C., sat Colonel Tinker, and on his left, Colonel Davenport Johnson, Air Corps, incumbent Commanding Officer of the Marin County Air Base. Mrs. Pratt occupied the hostess seat. Beside Col. Tinker sat Mrs. Johnson, and Mrs. Tinker was escorted to dinner by Colonel Johnson. Other guests included Colonel and Mrs. G.E. Stratemeyer, Major and Mrs. W.D. Vail, Major and Mrs. W.F. De Witt, Captain and Mrs. P.C. Gilliland, and Captain and Mrs. J.P. Smith. The enlisted men of the Detachment had as their guests Master Sergeant G.P. Klingler and Corporal J.J. Moran.

A surprise denouement occurred at the close of the dinner, when Master Sergeant A. Martin, Hospital Sergeant Major, played a phonograph record in his own resonant voice, bidding farewell to Colonel and Mrs. Tinker on behalf of the officers and enlisted men of the Medical Department. In it he requested Colonel Tinker to forever keep the record as a souvenir of their affection and esteem. Colonel Tinker was then presented with a departing gift in the form of a traveling case, completely equipped.

Colonel Tinker responded with a short acknowledgment of the gifts and said that both he and Mrs. Tinker would long remember the pleasure of their association with the personnel of Hamilton Field. Colonel Johnson was called upon and spoke briefly, expressing deep satisfaction with his new command.

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Major Christopher W. Ford (Captain) upon the completion of his present tour of duty in the Philippines, will assume the duties of Instructor, Air Corps, Ohio National Guard, Cleveland, Ohio.

Biographies

LIEUT. COLONEL HAROLD A. STRAUSS

Lieut. Colonel Harold A. Strauss, Air Corps, now on duty as Chief of the Procurement Section, Materiel Division, Air Corps, Wright Field, Ohio, was born in Ohio, September 11, 1887. Graduating from the U.S. Naval Academy June 6,1910, he was commissioned Ensign. He resigned from the Navy march 28, 1913, to accept on the following day a commission as 2nd Lieutenant, Coast Artillery Corps, U.S. Army. Colonel Strauss served with this branch of the Army until September,1920, when, at that time on duty as Assistant Chief of Staff for Military Intelligence, 2nd Corps Area, he was detailed to the Air Service and assigned to duty as a student at the Air Service Balloon School at Ross Field, Arcadia, Calif.

Upon the completion of the course of instruction at this school, he received the rating of Balloon Observer, as of April 26, 1921, and was then transferred to Langley Field, Va., for training at the Airship School. While a student at this school, Colonel Strauss also served as assistant to the Commanding Officer of the First Provisional Airship Wing.

Completing his training as an Airship Pilot, and receiving the rating as such, effective August 13, 1921, he remained at Langley Field, serving in the capacity of Assistant Commandant of the Airship School and later as Officer in Charge of Training, and as Instructor, until May 1, 1922, when he was transferred to the Engineering Division at McCook Field, Dayton, Ohio, and assigned to duty as Chief of the Lighter-than-Air Section.

Colonel Strauss commanded the Airship C-2 on its successful flight, in September, 1922, from Langley Field to the West Coast. Unfortunately, this airship, while being maneuvered from the hangar at Brooks Field, Texas, preparatory to the take-off on the return flight to Langley Field, was completely destroyed by fire caused by an explosion when an extremely strong gust of wind resulted in the ship breaking away from the maneuvering party, striking the steel framework of the hangar door, tearing the fabric and rupturing the gasoline tank.

In the summer of 1923, accompanied by Master Sergeant William J. Bennett, Col. Strauss piloted the Airship AO-1 and conducted the experiment of spraying a poisonous mixture on trees at Henniker, New Hampshire, which were infested with the Gypsy Moth.

Transferred to San Antonio, Texas, in March, 1925, Colonel Strauss completed the special observation course at the Advanced Flying School, Kelly Field, Texas, and received the rating of Airplane Observer. In September, 1925, he was transferred to Scott Field, Belleville, Ill., where he served as Assistant Commandant of the Balloon and Airship School until November, 1926, and thereafter, until May, 1927, as Operations Officer of the 21st Airship Group and Senior Instructor of the Balloon and Airship School. For the next three years he was stationed at Kelly Field, Texas, being assigned to the 24th School Wing Headquarters and performing among various other duties those of post auditor.

In June, 1930, Colonel Strauss was assigned to duty as student at the Primary Flying School at Brooks Field, Texas. He completed the primary course in February, 1931, and the advanced course at the Advanced Flying School, Kelly Field, in June, 1931, whereupon he was given the rating of Airplane Pilot. On June 29, 1931, he reported for duty at Wright Field, Dayton, Ohio, and since that time his duties have been connected with procurement activities.

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LIEUT. COLONEL JOHN C. McDONNELL

Lieut. Colonel John C. McDonnell, now on duty with the 18th Pursuit Group at Wheeler Field, T.H., as Commanding Officer, is one of the veteran pilots of the Air Corps, he receiving his rating as Junior Military Aviator on September 1, 1916.

Born in Baltimore, Md., November 9, 1887, Col. McDonnell graduated from Loyola College with a B.S. degree in 1908. Prior to entering the military service he followed the profession of surveyor. On March 3, 1913, he accepted a commission as second lieutenant of Cavalry, U.S. Army. On December 9,1915, he was attached to the Aviation Section, Signal Corps, and reported on the 23rd of that month at the Signal Corps Aviation School at San Diego, Calif., for flying training, which he completed in August, 1916.

Assigned to duty with the 1st Aero Squadron, Col. McDonnell served with this organization both at Columbus, New Mexico, and for several months in Mexico with the Punitive Expedition under General Pershing.

Ordered, in April, 1917, to duty at Kelly Field, Texas, he served at this station as instructor in acrobatics and as Officer in Charge of Flying until July 7, 1917, when he was transferred to Chanute Field, Rantoul, Ill., where he also served as instructor in acrobatics as well as at Selfridge Field, Mich., to which station he was transferred on October 1, 1917.

At Ellington Field, Houston, Texas, to

which field he was transferred on December 23, 1917, Colonel McDonnell was Officer in Charge of advanced flying. He trained some of the flying instructors in acrobatics to start an acrobatic stage. Later he was in charge of all training and for a brief time commanded the post.

Transferred to Washington, D.C., in July, 1918, Colonel McDonnel, after being on several weeks's duty in the Training Section, Office of the Director of Military Aeronautics, was ordered overseas, serving as Commanding Officer of the 7th Aviation Instruction Center, and, from December 30, 1918, as Corps Air Service Commander, 3rd Corps, 3rd Army, at Niewied, Germany.

Upon his return to the United States in May, 1919, he was on duty for several months at Mitchel Field, N.Y., where he was in charge of recruiting and of all flying for recruiting purposes.

Ordered to Aberdeen Proving Ground, Md., in July, 1919, Colonel McDonnell commanded the Air Service troops at that station until June, 1921, when he was assigned to duty as Professor of Military Science and Tactics at the Mass. Institute of Technology, Cambridge, Mass. He occupied this position for two years, and during the summer vacation months he served as Executive Officer of summer training camps at Mitchel Field, N.Y.

Colonel McDonnell next completed a tour of foreign service in the Philippines, being on duty as Commanding Officer of Clark Field and the 3rd Pursuit Squadron until August, 1925, when he assumed command of Nichols Field and the 4th Composite Group.

Returning to the United States, he was assigned to the command of the 88th Observation Squadron at Fairfield, Ohio. From May to December, 1926, he was in command of a composite Air Service Squadron at the Exposition at Philadelphia, Pa. After duty as Air Officer of the 3rd Corps Area, Baltimore, Md., until June, 1928, Colonel McDonnell was transferred to Washington, D.C., for duty as Chief of the Personnel Division, Office of the Chief of the Air Corps.

Following the completion of his four-year tour of duty in Washington, he completed the one-year course of instruction at the Air Corps Tactical School at Maxwell Field, Ala., and the two-year course of instruction at the Command and General Staff School at Fort Leavenworth, Kansas, and was then ordered to duty in the Hawaiian Department.

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NEW CHAPLAIN REPORTS AT KELLY FIELD

Lieut. Colonel Raymond J. Griffin, C.C., who reported at the Advanced Flying School, Kelly Field, Texas, last month, succeeding Chaplain E.R. Martin, is - like his predecessor - a priest of the Catholic Church. He has served continuously in the Army as a chaplain for 21 years, but this is his first tour of duty at any place in Texas.

A native of Ireland, Chaplain Griffin was raised in New York and completed his religious education at the Catholic University of Washington, D.C. He was appointed Chaplain in 1917, and his first assignment was at Governors Island, N.Y. During the World War he went to France as Chaplain of the First Separate Brigade, Coast Artillery, having been promoted to the temporary rank of Captain. Later he became senior Chaplain of the Second Army. Colonel Griffin came to Kelly Field from the headquarters of the 3rd Corps Area at Fort George G. Meade, Maryland.

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RUSSIAN OFFICERS INSPECT KELLY FIELD

The Advanced Flying School at Kelly Field, Texas, was inspected on December 22nd, last, by four Russian officers. They were very much interested in our methods of training.

It was interesting to note that all these officers were rather youthful. The senior, a Brigade Commander in the Russian Air Force, was only 39 years of age. They were very cordial and told the following about their flying training:

Their course consists of two years, the first of which is devoted solely to ground training. The students complete their pilot training in the second year and graduate, with an average of only 65 hours, as qualified pilots of single-engined airplanes. In order to pilot multi-motored airplanes, they must serve as co-pilot in a tactical unit for two or three years.

Another interesting item was the rates of pay received by the Russian Air Force. The average pilot receives 50% more than a line army officer. Then a pilot of a fast airplane receives 25% more than the average pilot, while an instructor receives 50% more than the average pilot and takes two months' leave a year with all expenses paid.

They wondered why we didn't teach our students to do aerobatics close to the ground. They further stated that they used women pilots, and when there was any new difficult job to be done they had a woman do it first, in order to stimulate the men to do better.

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MORE NAVIGATORS FOR THE AIR CORPS

"A well earned Christmas present was handed out to eight Air Corps officers in the form of diplomas as Dead Reckoning and Celestial Navigators," reports the Mitchel Field Correspondent, who

adds that "these recent graduates of the Ninth Group Navigation School used various terminalogy in describing the final examination. However, the general concensus was that it was a 'humdinger,' producing several aggravated cases of writer's cramp. The graduation flight to Miami was postponed to a later date. Officers who received diplomas are: Major Duncan, Captains Valentine, Gibson, Denniston, White, Lieutenants Norstad, Beebe and Haskin. Our friend 'Dick' Gibson won the right to be valedictorian and went all the way to Mexico on leave to escape the 'honor.'"

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VARIED PLANES FOR HQRS. GHQ AIR FORCE

Staff officers at the Headquarters of the GHQ Air Force, Langley Field, Va., probably have one of the widest choices of airplanes to fly in the Army Air Corps. This not only facilitates their movements in covering GHQ Air Force activities in the continental United States but enlarges the training scope of pilots and mechanics of the Headquarters Squadron.

Planes now assigned this Squadron include the famous Douglas C-32 Transport, four new A-17 Attack planes which recently arrived from the Northrop factory at Inglewood, Calif., a Martin B-10B Bomber, the brand new Douglas B-18 Bomber, an O1-G Observation plane, and the record-breaking Douglas OA-5 Amphibian. The maintenance of these planes is under the supervision of Major Eugene L. Eubank, Squadron Commander and Headquarters Commandant.

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GENERAL BRETT VISITS KELLY FIELD

Brigadier General George H. Brett, Air Corps, Commanding Officer of the 19th Composite Wing, Albrook Field, Panama Canal Zone, who, with several other officers, had stopped at Randolph Field en route to Panama, visited Kelly Field to renew old acquaintances. Officers in the party included Lieut. Colonel Richard H. Ballard, commander of France Field; Major George H. Beverly, of Albrook Field;1st Lieuts. Robert S. Israel, Jr., and Turner, of Albrook Field, the latter the engineer officer for the flight. The pilots had made a week-end flight from Mitchel Field, halting at Bolling, Langley, Maxwell and Barksdale Fields. The return trip to Panama was scheduled to be made by way of Brownsville, Tampico, Vera Cruz, Guatemala City, San Salvador, Tegucigalpa, Honduras; Managua, Nicaragua; San Jose, Costa Rica, and David, Panama. The flight to San Antonio consisted of the cargo plane, a Douglas Amphibian and a Bellanca. The planes were checked over at Duncan Field, where a second Amphibian was to be picked up for ferrying to Panama.

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SUB STRATOSPHERE FLIGHT BY 55TH SQUADRON

Supplementing the report on the high altitude flight made on December 15th last by the 55th Pursuit Squadron from Barksdale Field, La., to Kelly Field, Texas, and which appears elsewhere in this issue, the Barksdale Field Correspondent states:

Attaining an altitude of 21,500 feet 25 minutes after take-off at Barksdale Field, La., the 55th Pursuit Squadron, under command of Captain M.R. Nelson, engaged in a sub-stratosphere flight from Barksdale Field to Kelly Field to familiarize pilots with the use of oxygen and operation at high altitude.

The cross-country unit flight was composed of 9 airplanes of the P-26A type, equipped for the use of liquid oxygen, and made the trip the entire distance at the maximum altitude in exactly two hours for the 370 miles.

Maximum altitude was attained at a distance of 40 miles from Barksdale Field, 25 minutes after take-off. Visibility was reported exceptional at this altitude, cities and rivers being easily recognized at a distance of 100 miles. Although the use of the face mask and heaviest flying clothing was necessary, due to the sub-zero temperature encountered, no difficulties were encountered other than those by the Squadron Commander in turning about in his cockpit to check up on members of the flight. The maneuverability of the P-26A was found to be good at maximum altitude, and all equipment functioned satisfactorily according to reports of the personnel on the return flight.

It was found that a considerable reduction in time required for the servicing of the liquid oxygen equipment was possible by the use of several small containers, but this method required several litres more than the excess prescribed in the technical instructions. The equipment functioned perfectly throughout the flight.

The flight was believed to have been the longest made by a unit at maximum altitude in this section of the country. The Squadron returned at normal altitude after dark, non-stop via Fort Worth, Tex.

All pilots on the flight agreed in a general recommendation that enclosed cockpit airplanes with good heating facilities be furnished for future flights of this nature.

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The Airship TC-13 recently made two overnight flights from Moffett Field, Calif. On both occasions it followed the coast line north to the vicinity of Eureka before turning back. Major Elmer Bowling commanded the airship on the first flight, and Major Clarence B. Lober on the second.

18TH RECON. SQD. WORKING ON ALL CYLINDERS

In mid-December, the 18th Reconnaissance Squadron, Mitchel Field, N.Y., moved into its new offices and now, says the News Letter Correspondent, "it can be said that we are carrying on every activity but 'shuteye' and 'nose bagging' beneath the very wings of the airplane. Space to house the various activities was sort of 'chiseled' from the Base Paint and Dope Shop, and while the materials used in construction were temporary in nature, the Base Quartermaster is to be congratulated in relieving a very cramped situation. A higher degree of coordination and teamwork is expected within the Squadron as a result of having all activities concentrated."

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EMERGENCY FLIGHT UNDER ADVERSE WEATHER

Captain Harrison G. Crocker, Air Corps, with Lieut. C.R. Storrie as co-pilot, made an emergency flight on January 1st from Maxwell Field, Ala., to Bolling Field, D.C., for the purpose of bringing Major Thomas L. Gore, Medical Corps, to Walter Reed Hospital for treatment of injuries received in an automobile accident. The plane was a new Douglas C-33, and the flight of 750 miles was made in four hours through adverse weather conditions, the pilots not being able to see the ground after leaving Maxwell Field until they were almost within 100 miles of Bolling Field.

The Bolling Field ambulance was waiting for the plane upon arrival, and Major Gore, a litter patient, was taken to Walter Reed Hospital without delay.

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20TH PHOTO SEC. MOVES TO BOLLING FIELD

Effective January 1, 1937, the 20th Photo Section is moved from Randolph Field, Texas, to Bolling Field, D.C., where the men from that organization and the Bolling Field Photographic Department will be incorporated to function as a unit. The sixteen men transferred to Bolling Field included one Technical Sergeant, two Staff Sergeants, one Sergeant and twelve Privates, and will have reported for duty by January 10th, several members of the organization taking a ten-day delay enroute while traveling.

When completely organized, the 20th Photo Section will consist of twenty enlisted men and one officer, Captain H.K. Baisley, who is now Photographic Officer at Bolling Field. This increase of personnel for the Photographic Section will facilitate the handling of the ever increasing amount of work required of that department.

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THE SPECIAL WRIGHT FIELD NEWS LETTER

The Materiel Division was asked to produce a special Wright Field edition of the News Letter all by itself for the issue of January 1, 1937. Knowing the men behind the guns at the Materiel Division, we felt confident that they would produce the goods. Needless to say, they did, and how! News Letter readers will certainly testify to this fact.

From all standpoints - editorially, typographically and pictorially - the initial issue of the News Letter for the year 1937 was excellent. Those contributing towards its production have set a standard such as we jumble folks in the Chief's office cannot hope to emulate either at present or in the near future. We have not the facilities for work of this kind and, for reasons too numerous to mention, must carry on in our unostentatious way, always with the hope that what appears in the News Letter will prove of interest and profit to our readers.

In the not too distant future we expect at various times to knock on the door of other Air Corps field and activities and ask them to work up a special edition of the News Letter covering their particular functions. It is possible that Wright Field may have to look to her laurels.

Our most sincere congratulations are extended to the Materiel Division for its fine effort in connection with the January 1st issue.

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HIGH ALTITUDE FLIGHT BY LT. ROBERTSON

In recent performance flights in the 8th Pursuit Group, Langley Field, Va., Lieut. W.R. Robertson, Jr., Air Corps, of the 33rd Pursuit Squadron, GHQ Air Force, took his PB-2A airplane up to 39,200 feet, and flew at that altitude for approximately twenty minutes. Lieut. Robertson reported flight characteristics and position by radio every five minutes. After reaching 39,200 feet, Lieut. Robertson reported "frozen controls" - a very unpleasant situation at that altitude. The ship was in a climbing position, and Lieut. Robertson had to throttle back to lose altitude and descend to a warmer layer.

Comments the News Letter Correspondent: "Some say the controls were 'not frozen' but that the pilot was getting weak due to lack of oxygen. Either way, we still think Lieut. Robertson did a good job, 'frozen controls' or 'asleep'."

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LIEUT. COLONEL DUNCAN LEAVES LUKE FIELD

On December 1, 1936, another milestone was recorded in the history of Luke Field, T.H., when Lieut. Colonel Asa N. Duncan, Air Corps, relinquished command of the post and the 5th Composite Group to Lieut. Colonel Millard F. Harmon, Jr., Air Corps. Col. Duncan left for duty at March Field, Riverside, Calif. He availed himself of a leave of absence prior to reporting at his new station.

"It is with sincere regret that the personnel of Luke Field bid 'Aloha' to Lieut. Colonel and Mrs. Duncan," says the News Letter Correspondent, adding that "during the nearly two years that they have been with the Group they have earned the undying respect and affection of the members of the command.

During the period of Lieut. Colonel Duncan's command, many interesting events took place in which the 5th Composite Group had a part. Among the more important of these were the bombing demonstrations and tests for the Department Commander in the Spring of 1935, and the bombing of the lava flow on Mauna Loa during the first week of January, 1936. This highly successful operation, which attracted world-wide attention, was personally led by Lieut. Colonel Duncan. Subsequently the 5th Composite Group played an effective part in the Department Maneuvers of 1936, and more recently in the Hawaiian Department Military Competitions held in November. In addition, numerous special missions were successfully accomplished, such as seed sowing from the air, reconnoitering wild sheep on Hawaii and other projects in cooperation with the Territorial Government.

The 5th Composite Group welcomes its new Commanding Officer, and with confidence born of past accomplishments assures Lieut. Colonel Harmon of its best wishes and whole-hearted support."

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OBSERVATION TRAINING AT KELLY FIELD

Student pilot-observer teams of the Air Corps Advanced Flying School at Kelly Field, Texas, have recently gained valuable experience in reconnaissance flights over the maneuver areas in and near Fort Sam Houston. Through permission granted by Major General Brees, Commanding General of the 8th Corps Area, student flyers of the Observation Section observe and report by radio positions and activity of Infantry and Artillery units of General Parson's 2nd Division at all possible occasions when exercises are being conducted. The Fort Sam Houston regiments in action, in the field, in concealment or on the march, thus afford the best of opportunities for training for the air observers.

BELGIANS STUDY AVIATION AT SAN ANTONIO

Many of the advances made in American civilian and military aviation will be introduced into the aerial defenses of Belgium, according to Lieut. General Maurice Gilleaux, Commander of the Belgian Air Force, who completed an inspection at Kelly and Randolph Fields on December 10th, last. Accompanied by his aide, Lieut. Viscount Eric Stoelberch, the Belgian commander came to the United States two months ago to study the various phases of American aviation. The two visitors left San Antonio for New York City by commercial plane.

General Gilleaux stated that no comparison can be made between military aviation here with that of Belgium because of the difference in population. However, he commended the plan of instruction at both the Air Corps Primary and Advanced Flying Schools and praised the manner in which Kelly Field was maintained, despite the fact that many of the buildings were constructed in 1917 when the field was laid out.

General Gilleaux declined to comment on the European situation, declaring that he had been out of touch with affairs since coming to this country. He was noncommittal as to the possibilities of a European war. The Commander, a major in the Artillery during the World War, entered the Belgian Air Force eight years ago.

At Randolph Field, Lieut. Colonel T.W. Hastey, Executive Officer of the Air Corps Training Center, conducted the two visitors on an inspection of the Primary Flying School on December 9th, and Col. E.A. Lohman, Assistant Commandant of the Advanced Flying School, and Captain W.G. Bryte, Secretary, conducted the inspection at Kelly Field the following day.

The Belgian Air Force Commander and his aide have visited most of the Army aviation fields, several Navy airdromes, and a number of civilian airplane factories. They had just completed a study of March Field, Calif., before coming to San Antonio. They were scheduled to sail for Belgium shortly following their arrival in New York City.

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The Barksdale Field Correspondent states that January always brings forth a great crop of "sweaters" among the second and third grade enlisted men. The Technical Sergeant and Master Sergeant promotion list is due for publication, and every issue of the Air Corps News Letter, the Army and Navy Register or the Army and Navy Journal finds a long line waiting for a peek. First Sergeant Rowen and Staff Sergeant Healey lead the line - always.

Ed Note: Barring unforeseen circumstances, it is expected to publish the Technical Sergeant [illegible] Promotion List in the next issue of the News Letter - February 1, 1937.

OBITUARIES

An airplane accident on January 1st resulted in the death of Lieut. Colonel Frederick I. Eglin, Air Corps, pilot, and Lieut. Howard E. Shelton, Jr., a naval officer, who was a passenger in the plane. Colonel Eglin was enroute from Langley Field, Va., to Maxwell Field, Ala. The wreckage of the airplane was found near the top of Cheaha mountain, highest of the Appalachian peaks in Alabama, fifty miles from Birmingham. It was believed that the accident occurred at 3:00 p.m., at which time a heavy rain was falling and a thick fog hung over the mountainous area.

Colonel Eglin was a veteran Army flier who piloted planes in the World War. A native of New York, he was born on February 23, 1891. Prior to his entry into the Federal military service, Col. Eglin served as Private, Corporal and Sergeant in Company B, 2nd Indiana Infantry, from March 1, 1911, to March 4, 1914. From March 6, 1914, to April 16, 1917, he was Regimental Sergeant Major, 2nd Indiana Infantry. Mustered into the Federal service June 9, 1916, Col. Eglin served on the Mexican Border until mustered out of the Federal service February 28, 1917. On April 16th of that year he was commissioned a second lieutenant, Indiana Infantry. In that month he was attached to the Aviation Section, Signal Corps, U.S. Army, and assigned to the Aviation School at San Diego. Calif., for flying training. He completed this training on July 20, 1917, and was rated Junior Military Aviator September 11,1917.

In November, 1917, he was attached to duty with the 142nd Aero Squadron. He was appointed 1st Lieut. (temporary) in the Signal Corps, U.S. Army, December 15, 1917, and was promoted to Captain, Air Service, October 1, 1918.

On December 6, 1917, Col. Eglin was assigned to duty as Assistant Engineer Officer at the Signal Corps Aviation School at San Diego, and from February 1, 1918 to May 24, 1918, he was Assistant to the Officer in Charge of Flying at Rockwell Field, Calif. Transferred to March Field, Calif., he performed the duties of Assistant Engineer Officer and Assistant Officer in Charge of Flying until December, 1918. In January, 1919, he was assigned to duty as Aero Supply and Disbursing Officer, and Acting Motor Transport Officer, in addition to a variety of other functions at the post, these including the position of Officer in Charge of Flying and the temporary command of the field.

On December 10, 1921, Col. Eglin was transferred to Mather Field, Calif., where he commanded the 9th Squadron as well as the post until May 4, 1922, when he was assigned to duty as Operations Officer.

Transferred to foreign service, he was on duty with the 28th Bombardment Squadron at Clark Field, P.I., from September, 1922, to December 12, 1922, when his station was changed to Nichols Field. Here he performed the functions of Post Adjutant, in addition to other duties, among them those of Operations Officer of the 4th Composite Group, until September 2, 1924, when he was transferred to Kelly Field, Texas. From December 1, 1924, to December 2, 1926, Col. Eglin commanded the 40th School Squadron, in addition to serving as Adjutant, Supply Officer and Mess Officer. He was then detailed as Director of Bombardment in the Advanced Flying School. On August 12, 1927, he was assigned to duty as Executive Officer of the Air Corps Training Center, Duncan Field, Texas, and he occupied this position until August 22, 1929, when he was assigned as student at the Air Corps Tactical School, Langley Field, Va. Upon his graduation from this school in June, 1930, he pursued the two-year course of instruction at the Command and General Staff School at Fort Leavenworth, Kansas. His graduation from Fort Leavenworth in June, 1932, was followed by his assignment to duty as Instructor at the Air Corps Tactical School, Maxwell Field, Ala. In July, 1936, he was assigned to duty at Langley Field, Va., with the GHQ Air Force.

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Misfortunes never appear to come singly. On January 4, 1937, an aircraft accident at Rantoul Ill., resulted in the death of Captain Reginald R. Gillespie and Technical Sergeant Clarence E. Sudduth, Air Corps.

Captain Gillespie was born at Lake Center, Iowa, December 1, 1901. He attended high school in several cities in Montana and later attended the University of Montana for nearly three years.

Qualifying for a Flying Cadet appointment, he began lighter-than-air training at the Balloon and Airship School, Scott Field, Ill., in September, 1923. Successful in the competitive examination for a commission in the Regular Army,he was appointed a 2nd in the Air Corps, June 15, 1924. Upon his graduation from the Balloon and Airship School, Capt. Gillespie was rated Airship Pilot and Balloon Observer, effective August 23, 1924. He remained on duty at Scott Field, serving with the 8th Airship Company to May 18, 1925, and with the 9th Airship Company until the following September, when he reported to the Primary Flying School, Brooks Field, Texas, for heavier-than-air training. His training delayed due to injuries received in an aircraft accident, he completed the primary instruction in September, 1926, and was then transferred to the Advanced Flying School,Kelly Field, where, in March, 1927, he completed the special course for Airplane Observers. He was then transferred to Langley Field, Va., and assigned to duty with the 19th Airship Company.

Ordered to duty in the Hawaiian Department, Captain Gillespie served with the 4th Observation Squadron in July, 1928; with the 72nd Bombardment Squadron to October 2, 1929, and again with the 4th Observation Squadron until August, 1930. During his two years of duty at Luke Field, he performed various duties, such as Squadron Adjutant, Supply Officer, Mess Officer, Communications Officer and Parachute Officer.

Captain Gillespie reported for duty with the 47th School Squadron, March Field, Calif., as Personnel Adjutant, in September, 1930. In

July, 1931, he was assigned to duty at Langley Field, Va., with the 19th Airship Company as Supply Officer. Later he performed the duties of Operations and Engineering Officer, Armament Officer and Communications Officer. For several months in the year 1933, he served as Adjutant of a C.C.C. Company at Fort Meade, Md.

Detailed to pursue the course in heavier-than-Air flying, Captain Gillespie reported in June, 1935, at the Primary Flying School, Randolph Field, Texas. He completed the primary flying course in February, 1936, and the advanced course at Kelly Field, Texas, in June, 1936, specializing in Bombardment Aviation and receiving the rating of Airplane Pilot, effective June 17, 1936. He was then assigned to duty at the Air Corps Technical School at Chanute Field, Rantoul, Ill.

Sergeant Sudduth was born March 22, 1900, at Ridge Farm, Ill. He enlisted in the Air Service February 21, 1922; served at Langley Field, Va., to September 1, 1922; with the 1st Pursuit Group at Selfridge Field, Mich., to July, 1925, when he was transferred to Chanute Field, Rantoul, Ill., where he completed the courses at the Technical School in Engine and Airplane Mechanics. He was appointed a Staff Sergeant in February, 1925, and Technical Sergeant in July, 1930. From June, 1931, to July, 1934, he served in the Philippines, first with the 2nd Observation Squadron and later with the 66th Service Squadron, at Nichols Field. Returning to Chanute Field, he graduated in April, 1936, from the Technical School as an Aircraft Armorer. He was then assigned to duty with the Headquarters and Headquarters Squadron at Chanute Field.

The sincere sympathy of the Air Corps is extended to the bereaved families of these men who died in the service of their country.

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NEW INSIGNIA FOR 32ND BOMBARDMENT SQUADRON

By the News Letter Correspondent

The mighty Martin Bombers of the 32nd Squadron of March Field have just blossomed forth with the new Squadron insignia.

Since its original organization at Kelly Field, Texas, June 13, 1917, and throughout its service overseas during the World War, the Squadron has been without such an insignia. After the Squadron was reconstituted and made active on June 24, 1932, many original ideas concerning an appropriate design that would embody the various activities of the Squadron were submitted. The problem of representing the bombing, gunnery and navigational phases of training of the Squadron was a difficult one. Finally, in October, 1936, by combining several designs submitted by Mr. H.F. Lambert, a St.Louis commercial artist, the present insignia was completed and accepted.

The design is triangular in shape. In the upper half of the triangle, signifying winged destruction, is an emblematic bird grasping two bolts of lightning. In the lower half of the triangle is a bomb superimposed upon the mariners' star, thus grouping together the dual training of the Squadron - training in Bombardment Aviation and in methods of aerial navigation. With this dual mission in mind and with thoughts towards the future when, with planes of even greater radii of action, navigation will constitute a larger part in the successful completion of bombing missions, it is deemed most appropriate that the insignia symbolize these two important functions.

The insignia employs the four basic colors of blue, green, yellow and white. Against a blue background the white emblematic bird is readily discernible. The color scheme is well blended and the insignia presents, as a whole, a pleasing picture.

If the past is any criterion, the new insignia will have its introduction to most sections of the country within a short time. The 32nd Squadron is active in all maneuvers in which Bombardment Aviation is employed and, whether it be Alaska or Florida, the 32nd will be there.

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NARROW ESCAPE FOR COL. STRATEMEYER AND HIS CREW

Lieut. Colonel G.E. Stratemeyer, the new Commanding Officer of the 7th Bombardment Group, and his crew, had a very narrow escape from death or serious injury when, after completing a training flight over the Bay area, he was forced to land in the mud flats of San Pablo Bay. He had circled Hamilton Field in preparation for a landing when one motor cut out, to be followed immediately by the failure of the other. Not having enough altitude to make the field, he was forced to set the ship down in the shallow water about one mile from shore.

The Colonel and his crew, which was composed of Lieut. R.H. Lynn, Sergeant H.W. Elliot and Private R.C. Thompson, were rescued, uninjured, by members of the field's "Crash Boat." The airplane, The Bird O'Prey, XIII," was formerly flown by Colonel C.L. Tinker, until recently Commanding Officer of Hamilton Field, and was one of the Martin B-10B Bombing planes.

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AIR CORPS OFFICERS ASSIGNED TO ARMY WAR COLLEGE

Special Orders of the War Department, recently issued, detailed ten Air Corps officers to attend the 1937-1938 class at the Army War College, reporting for this duty between August 16 and 21, 1937. These officers are:

Colonel Henry W. Harms (Lieut. Colonel), Commandant, Air Corps Primary Flying School, Randolph Field, Texas.

Major John DeF. Barker (Captain), Major Warren R. Carter (Captain) and Major Lawrence P. Hickey, all of Langley Field, Va.

Major Harry A. Johnson (Captain) Barksdale Field, La.

Major Austin W. Martenstein (Captain) Air Corps Tactical School, Maxwell Field, Ala.

Lieut. Colonel Hubert R. Harmon, March Field, Calif.

Major Alfred J. Lyon (Captain) student at Army Industrial College, Washington, D.C.

Major John Y. York (Captain) Office of Assistant Secretary of War, Washington, D.C.

Major Idwal H. Edwards, Hawaiian Department.

R E T I R E M E N T S

Warrant Officer Eugene C. Braig first entered the service of the United States Army on May 1, 1894, and since that date served continuously, as follows:

Second United States Artillery.

Sergeant, 7th United States Artillery.

Transferred in rank to United States Military Academy Detachment, Field Artillery, August, 1900.

Appointed First Sergeant of that Detachment, August 6, 1900, and continued in service until November 18, 1917.

Commissioned Captain, Aviation Section, Signal Corps, November, 1917.

Assigned to Hazelhurst Field, L.I., New York, as Commanding Officer, 213th Aero Squadron.

Transferred to Ground School, School of Military Aeronautics, Princeton University, December 14, 1917, as head of Military Detachment and Inspector of Ground Schools.

Transferred from Princeton University to Austin, Texas, for the Ground School there.

Closed that school and transferred to Bolling Field, D.C., in March, 1919, where he served as Supply Officer, Finance Officer, Quartermaster, Transportation Officer and Morale Officer until December 31, 1920.

Reenlisted as Technical Sergeant, 99th Squadron, Air Service, January 1, 1921.

Discharged January 2, 1921, and appointed Warrant Officer, U.S. Army, January 3, 1921, and transferred to Langley Field, Va., January 19, 1921, serving thereat to the present time.

During the period of the World War, Warrant Officer Braig's major service was rendered in the capacity of Commandant of Cadets at the School of Military Aeronautics, Princeton University. Serving on this important assignment, he was responsible for the initial basic military training of all cadets attending that institution, many of whom received commissions as officers in the Air Service and served with distinction overseas throughout the period of the World War.

Warrant Officer Braig is advanced on the retired list to the grade of Captain.

Master Sergeant Andrew May, who was recently placed on the retired list, was born February 11, 1885, at Nakofalva, Austria Hungary.

Enlisting in the United States Army, July 11, 1905, he served with the 2nd Coast Artillery Company continuously until July, 1920. Then serving in the Philippines, he joined the Air Service and was assigned to the 27th Balloon Company. Returning to the United States in April, 1922, he served for a short period at Crissy Field, Calif., and, in July, 1922, was transferred to Rockwell Field, Calif., serving with the 11th Bombardment Squadron until August 26, 1926, when he was transferred to the 59th Service Squadron. He joined the 95th Pursuit Squadron in June, 1928, served three years with that organization. From July, 1931, to June, 1932, he served with the 11th Bombardment Squadron, and then with the 30th Bombardment Squadron to the date of his retirement.

Master Sergeant May was appointed a Sergeant during his second enlistment. He was promoted to Staff Sergeant in September, 1920; to Technical Sergeant in August, 1926, and to Master Sergeant in June, 1931. All of his discharge papers have been characterized by the word "Excellent."

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EXTENDED ACTIVE DUTY FOR AIR RESERVE OFFICERS

The following-named Second Lieutenants of the Air Reserve have been placed on extended active duty at the stations indicated, their service to expire on the dates given:

Angle, Robert S., Hawaiian Dept. Oct. 14,1939
Altman, Dale Ellis, Hawaiian Dept. June 15,1939
Barton, Joe Earle, Langley Field, Oct. 14,1939
Bates, Earle Eugene,Jr. Hawaii, June 30, 1939
Bernard, Homer D., Panama Canal Dept. June 15,39
Berry, Jack Wilson, Hawaiian Dept. June 30,1939
Borden, Mitchell P., Langley Field,Dec. 14,1939
Boutz, William Ray, Hawaiian Dept. June 15,1939
Bullock, Cady R., Hawaiian Dept. June 15, 1939
Callish, Norman Louis, Hawaiian Dept. June 15,39
Campbell, Blaine B., March Field, June 30,1939
Capp, Wm. Charles, Hawaiian Dept. June 15, 1939
Cheatwood, John H. Hawaiian Dept. June 15, 1939
Clark, Glenn Clair, Panama, Nov. 1, 1939
Cochran, James C. Hawaiian Dept., June 15, 1939
Cocke, Wm. Alexander,Jr. March Field,Nov.20,39
Coddington, Nathan H., Hawaiian Dept. June 15,39
Councill, Wm. H. Hawaiian Dept. June 15, 1939
Culler, Harry Hillus, Ft. Bragg,N.C.,Dec.14,39
David, Wm. Bell, Selfridge Field, June 30,1939
Denison, Howard C. Hawaiian Dept. Aug. 6, 1939
Dennison, Julius W. Jr. Selfridge Field, July 1, 1939.
Diehl, Donald B. Panama, October 25, 1939
Dietz, Harold L. Mitchel Field, Nov. 14, 1939
DuFrane, John L. Jr. Hawaiian Dept. June 30, 39
Fernald, Wm. Irvin, Hawaiian Dept. June 15,1939
Fisher, Charles E. Hawaiian Dept. June 15, 1939
Furlow, James W. Langley Field, Jan. 3, 1940
Gorman, Edmund Theodore, Hawaii, Oct. 14, 1939
Gray, Frederick C.,Jr. March Field, June 15,1939
Haynes, Frank V. Pope Field, June 15, 1939
Hatcher, George A. Selfridge Field, July 1,1939
Higgs, Frank Lott, Hawaiian Dept. June 15, 1939
Hilkes, Clarence Wm. Hawaiian Dept. June 15,1939
Holloway, Benj. G. Hawaiian Dept. Aug. 6, 1939
Hoyt, Stanley C. Hamilton Field, Oct. 14, 1939
Hurst, Herman E. Patterson Field, Jan. 3, 1940
James, Weldon M. March Field, June 15, 1939
Joyce, Edwin A. Langley Field, Oct. 14, 1939
Kinkel, Ross S. Hamilton Field, Oct. 14, 1939
Kreps, Kenneth Ray, Hawaiian Dept. June 15, 1939
Kuhn, David B. March Field, June 15, 1939
Marks, Jack S. Hawaiian Dept., June 30, 1939
Martin, Robert Kay, Hawaiian Dept. June 15,1939
Mason, Ben A., Jr. Hawaiian Dept. June 15, 1939
Nightingale, Frank N. Hawaiian Dept. June 15,39
Olson, Abraham D. Hawaiian Dept. June 30,1939
Paul, Franklin K. Panama, Oct. 14, 1939
Penland, Hugh B. Hawaiian Dept. June 15, 1939
Polhamus, Robert G. March Field, June 30,1939
Rambo, Wilkie A. Panama, June 30, 1939
Rankin, William Q. March Field, June 15, 1939
Rendle, Irvine A. March Field, June 15, 1939
Schmid, Clarence L. Hamilton Field,June 30, 39

Schofield, Thomas J. Mitchel Field, Jan. 3,1940
Sewart, Allen Jackson,Jr. Panama,Oct. 31, 1939
Shedd, Morris E. Panama, Oct. 25, 1939
Smith, Jess Anders, Hamilton Field, June 15,39
Stewart, John P. Hawaiian Dept. June 15, 1939
Thomas, Joseph A. Hawaiian Dept. June 15,1939
Waterman, Paul, Hawaiian Dept. July 1, 1939

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WAR DEPARTMENT SPECIAL ORDERS

Changes of Station: To Hawaiian Department: Major William J. Hanlon (Captain) from Wright Field, sailing about March 18, 1937; 2nd Lieut. Louis W. Proper, from Hamilton Field; 1st Lt. Dale D. Fisher, from Langley Field; Warrent Officer Arthur R. Trabold, from San Antonio Air Depot.

To Langley Field, Va.: 1st Lieut. Harold W. Bowman, from the Philippines.

To Panama Canal Zone: 1st Lieut. Norman B. Olsen from Randolph Field; Warrant Officer Vernon L. Roberts, from Kelly Field.

To Bolling Field, D.C.: Captain Howard M. Turner, from Primary Flying School, Randolph Field; 1st Lieut. Jesse Auton from 17th Attack Group, March Field

To Randolph Field, Texas: Major William C. Morris, from duty as Instructor, 37th Division, Ohio National Guard, Cleveland, Ohio.

To Moffett Field, Calif.: Major Bushrod Hoppin, from duty with Organized Reserves, 5th Corps Area, Lunken Field, Ohio.

To Cincinnati, Ohio: Captain Joseph P. Bailey, from Randolph Field, for duty with Organized Reserves, 5th Corps Area, Lunken Airport.

To Coronado, Calif.: Warrant Officer Leland D. Bradshaw, from Hamilton Field, to Rockwell Air Depot.

To Mitchel Field, N.Y.: 1st Lieut. Arthur W. Meehan, from Randolph Field; 1st Lieut. Emmett O'Donnell, Jr., from Selfridge Field.

To Chanute Field, Ill.: 1st Lieut. Carl W. Carlmark from duty as student, Armament Course, Air Corps Technical School, Chanute Field.

To Mitchel Field, N.Y.: 1st Lieut. Dwight Divine, II, from Panama Canal Department.

To Washington, D.C.: 2nd Lieut. John G. Benner, Selfridge Field, to Walter Reed General Hospital for observation and treatment.

RELIEVED FROM ASSIGNMENT TO AIR CORPS: 2nd Lieut. Frederick C. Bothwell, Jr., from Air Corps Training Center, Randolph Field, to 2nd Division, Fort Sam Houston, Texas.

ORDERS REVOKED: Assignment of 1st Lieut. James P. Newberry from Brooks Field to Panama Canal Department; assignment of 1st Lieut. C.H. Rees, Langley Field, to duty as student in Armament Course, Air Corps Technical School, Chanute Field, Ill.

PROMOTION: Captain William L. Boyd to Major (temporary) with rank from December 9, 1936.

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Second Lt. Bierne Ley,Jr., Air Reserve, of Charlottesville,Va., was ordered to active duty for 3 years from January 15, 1937, at Langley Field, Va. For some time past Lieut. Ley has been on the editorial staff of SPORTSMAN PILOT, and some very interesting and well written aviation stories from his facile pen have appeared in this aviation magazine and other periodicals.

NOTES FROM THE WASHINGTON OFFICE

Officers who returned recently from cross-country navigation flights were Colonel William C. McChord; Captain Stewart W. Towle, Jr.

Lieut. Colonel Gerald E. Brower returned to duty after a ferry flight from the plant of the North American Aviation, Inc., Inglewood, Calif., to Atlanta, Ga.

Major Alvan C. Kincaid returned from a ferrying flight from the plant of the Douglas Aircraft Co., Santa Monica, Calif., to Philadelphia, Pa.

Lieut. Colonel Rosenham Beam ferried a plane to Boston, Mass., from the plant of North American Aviation, Inc., Inglewood, Calif. Major Morton H. McKinnon ferried a plane from that factory to Selfridge Field.

Lieut. Colonel Ross G. Hoyt left January 5th to ferry to Boston a plane from the Douglas Aircraft factory, Santa Monica, Calif. Captain Angier H. Foster left January 7th on a ferrying mission similar to that of Col. Hoyt.

Lieut. Colonel Harry H. Young returned from temporary duty at Westfield and Newark, N.J.

Major Alfred W. Marriner, Captains Evers Abbey and Mervin E. Gross returned recently from temporary duty at Wright Field, Ohio.

Major Charles Y. Banfill ferried a plane for the Connecticut National Guard, Hartford, Conn., from the Douglas Aircraft factory.

Officers in the Chief's Office who recently returned from leave were Majors David A. Myers, Karl S. Axtater and Captain James W. Spry.

Recent visitors to the Chief's office during the course of navigation flights or while on leave were Major Harry A. Halverson from the Command and General Staff School, Fort Leavenworth, Kansas; Captain Haynie McCormick from Scott Field, Ill.; Major William W. Welsh and 1st Lieut. George McCoy, Jr., from Maxwell Field, Ala.; 1st Lieut. Paul T. Cullen from Mitchel Field, N.Y.; 1st Lieut. Pearl H. Robey from Wright Field; Captain Howard M. Turner, Randolph Field, and 1st Lieut. Jesse Auton, prior to reporting to duty at Bolling Field; and Colonel Clarence L. Tinker, transferred from Hamilton Field to Washington for duty in the National Guard Bureau.

Major Edward V. Harbeck, Jr., recently returned from an Inspection trip.

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Captain James R. Anderson, Ordnance Department; 2nd Lieut. Jack W. Hickman, Corps of Engineers, and 2nd Lieut. John K. Brown, Jr., Field Artillery, were transferred to the Air Corps on December 23, 1936. Upon the completion of their present course of instruction at the Advanced Flying School, Kelly Field, Texas, about February 15, 1937, Captain Anderson will proceed to the Hawaiian Department for duty with the Air Corps, as will Lieut. Hickman, while Lieut. Brown will proceed to Brooks Field, San Antonio Texas, for duty.

FOREIGN OPINIONS ON AVIATION, PRESENT AND FUTURE
From the Italian aeronautical journal "ALA D'ITALIA"
A continuation from the December 15th issue

GIUSEPPE GABRIELLI
of the "Aeronautica d'Italia - Fiat"

Only metals have the vast range of mechanical characteristics which is necessary for materials employed in aeronautical construction. The problems of rigidity, vibration, inderformability and durability are completely solved by metals only. For small and medium planes wood was all right in the past, but the progress attained by modern constructional technics cannot tolerate any longer the use of such material, with which it will never be possible to attain the best ratio between the empty weight and the useful load. Weight is everything in aviation.

In some special constructions the use of wood is quite impossible, that is in the case of small single seaters like fighting and racing planes. Even the change from biplanes to monoplanes (the latter has now nearly conquered the whole field of aeronautical construction) has all the more brought to the fore the necessity of using metal, because monoplane wing problems, particularly when high speed is needed, may only be solved with all-metal wing.

If one looks back at the aeronautical constructions of the past, one can see how wood has been gradually replaced as a consequence of the progress of technics. Several years have been necessary to remove the prejudice in regard to the use of metals. One was the excessive cost. Really this had its origin from the fact that metallic construction was too often realized according to constructive ideas and design derived from the wooden structures. The result was an irrational metallic construction which was too costly. For the same reason metallic constructions were said to be slower than wood construction.

A particularly useful material for aeronautical constructions is duralumin, which alone represents about 90% of the metals employed. In many special cases light aluminum are preferred whilst high resistance steel is useful for stressed structural-welding. Steel is valuable for welded framework, undercarriages and support parts. In the case of civil airplanes, the duralumin is specially useful for the construction of monocoque fuselages, with great advantage over the other types of structures, because it easily allows the interior of the cabin to be lined with thermo-acoustic materials and makes it possible to use the whole volume and lastly is very light.

As regards the wings, the monoplane formula is now indisputed and is applied to the large, medium and small planes as well. The construction of such cantilever wings found its finest solution in the one-piece wing which during 16 years of hard work on the part of technicians all over the world has been more and more perfected. Although today it is nearly perfect, it constitutes for the future one of the largest fields of study which will give more satisfactory results, and emphasize the characteristics of metals.

For all these reasons we can safely say that the aeronautical material of the future is the "duralumin" and that in the always extending and rational use of light aluminum alloys the aeronautical constructions will find the most precious means for progress.

GENERAL ALEXANDER LOHR
Chief of the Austrian Air Force

Experiments of these last years are proving very clearly that fully armed and ammunitioned soldiers can easily be landed by means of parachute. Supplying of advanced patrols with foods and ammunitions has already been accomplished in 1915-1918. During their African campaign in Morocco, the French already practiced it regularly, and it has to be credited to aviation that the Italians succeeded in conquering Abyssinia so quickly owing to the fact that airplanes were able to supply whole arms corps when by no other means this could be done.

It is therefore to be held now as quite possible to send troops to very advanced positions and to supply them by aerial means every time the enemy does not oppose it. In the case of European wars it must be realized, however, that the observation service will generally be able to catch sight in due time of such transports when the objective is far enough and to take the necessary countermeasure. Transport aircrafts, as well as bombers, being often exposed to attacks only during the return trip, it appears necessary that such counter-measures besides the aerial defense with fighter planes have to be helped by anti-aerial artillery.

The landed patrols as soon as down to ground naturally need some time in order to organize themselves and find their way. Should they be caught at this very moment by enemy forces, even small ones, but capable of a quick gathering, the failure of the enterprise is nearly certain. It appears therefore necessary for the future to take defensive measures against aerial infantry such as signal service, lorries ready to start and so on.

More dangerous than aerial infantry seems to be "sabotage" infantry, bold men landed by parachute whose mission is to lay mines, to kindle fires and so on. Results will be greater when plans are drawn up before the war and men fully trained for such particular task.

A matter of outstanding importance will be the landing of troops in the battlefield itself. In some particular spots of it, signal service and other communications may be wrecked or not yet ready and consequently the defence by fighters and anti-aerial artillery out of efficiency. In such case there will be very favorable conditions for a surprise from the sky. If the aggressor is also favored by land's configuration and weather conditions, aerial infantry can easily be successful, by destroying communications in the back-lines and so paralyzing the action of headquarters.

Sometimes the attack could also be struck

from back and sides with better results than can be expected judging only from the sheer number of soldiers involved.

It is consequently my opinion that aerial infantry, although not to be considered as a decisive factor, is nevertheless a quite remarkable novelty in the art of the war.

C. WIESELBERGER
Director, Aerodynamic Institute, Aachen University

Is it possible to reach a stalling to top speed ratio in the order of 1 to 10?

I am firmly convinced that in the next five or ten years, the actual range from stalling to top speed will be increased, but it is also my opinion that better result can only be obtained, at least for some years more, by using the lifting power of horizontal propellers and by further developments of helicopters and autogiros. For the latter particular type of aircraft there are only some particular problems of construction and stability left to solve and the solution is only a matter of a few years.

I do not believe that standard airplanes will reach very low landing speed (let us say 10 to 20 kms. p.h.) owing to the fact that fixed wings will not give at such speed a sufficient and efficient lift.

WOLFANG VON GRONAU
President, Aero Club of Germany

Prototype machines are now being tried which reach the speed of 500 kilometers an hour. The quickest has even done more than 700 kilometers an hour. Why could these results not be obtained with standard equipment aircraft? There are two problems that have to be solved first. First of all there is that of landing. It is difficult to reduce such speeds so as to be able to land slowly in such a little space as that required by some aerodromes, and with safety for the passengers. Military use of damaged airdromes or those of limited space should also be taken into consideration. The present speed of landing should not be increased in any case, even if navigation speed should be increased. Although there are no irremovable difficulties connected with this problem, it does not seem to be very easy to solve. Wind tunnel experiments in which the air current was made visible by smoke have shown that it is still possible to increase the ratio between the highest and lowest speeds.

The second problem, which will undoubtedly be solved gradually, is that of the driving power and of fuel consumption. The prototypes now under test have engines which, on account of their measure and weight, are out of proportion with the size of the body and they do not last long enough owing to their lightness. The foregoing holds good for the fuel quantity required, which is excessive in comparison with the load capacity of the craft. One could nevertheless reach a considerable flying range even with increased power of the engines, provided that their weight and specific consumption of fuel do not increase. In this way the highest speed obtained will not cost more. On the other hand, this is the condition against which the speed of the present prototypes can be utilized practically.

For several reasons I do not think that airplanes with movable wings will come into use in the near future. The lifting propellers and similar constructions are so complicated and in their revolving parts they are exposed to such wear and tear that in the present state of technics it is impossible to build them for trials of some importance. Even the flying windmill has not been able to get a big market for itself on account of the high cost of its too reduced load capacity and a lower speed than that of airplanes with equal power and fixed wings. Since the flying windmill is also extremely sensitive to overloads, it is not even free from danger and many accidents have already happened on account of this fact. On the other hand, with the aid of slot wings, aerodynamic brakes and other devices of that kind, it has been possible to obtain a reduced starting and landing speed for ordinary airplanes, which is sufficient for nearly all cases. This accomplishment together with the marked advantages offered by the airplane make investigations in the field of movable wings seem to be less urgent.

According to my opinion the use of airships for transoceanic services will have further developments, seeing that they can carry a larger number of passengers than airplanes and can offer them more comfort. Passengers will reserve their preference for airships over airplanes on account of the time saved in the voyages with transatlantic craft. On the other hand, I do not think that airships will be used for military purposes as their extreme vulnerability would make them a too easy prey for the airplanes.

ARTURO G. CROCCO
OF THE ITALIAN ACADEMY

The Volta Congress has confirmed the scission of the problems of flying speed in three fields, of which the first reaches about 800 Kms. p.h.; the second range between 800 and 1200 Kms. p.h., and comprises the speed of sound in the atmosphere, and the third goes beyond 1200 Kms. p.h. (Please take notice of the graphic). These three zones can be shown in the graphic by taking as an index the drag-coefficient of a body having a certain form (f. in. an airplane fuselage). The Congress has called them scientifically sub-sonorous, sonorous and ultra sonorous speed. I will use instead more expressive technical terms by naming the first one "aeronautical" and the third one "ballistic." In fact, the aeronautical speeds have in the "Avis" term their natural progenitor, as their technics in the modern airplanes are now following the bird features. This is true not only of their esthetic aspect, but also of the fundamental aerodynamic particular which is that of frontal rounded wings and bodies. It may be foreseen that this particular form will remain the main characteristic of aircraft as far as the drag-coefficient remains constant, that is, up to the highest limit that can be reached, before the problems of speed can be noticed. On the contrary, the "ballistic"

speed, which has already been reached by artillery but not yet by flying men, will compel us to give up this form only to follow the direction of the new theories which were adopted by the Volta Congress, and which require sharp frontal forms, like the ships' prow or like the form of modern bombs.

And ballistic flight's wing have been compared at the Congress to blades. Not only aerodynamical basis but also the principles of propulsion and power will have to change if we want to reach ballistic-flight. New technical principles will have to be realized for propulsive apparatus and for engines. This change will not be a gradual evolution but a revolution.

Where will this ballistic- flight be possible? Of course in rarefied air. The connection between high speed and rarefied air is imposed by the problem of power and by exigencies of take-off and landing which both require low speeds. Perhaps ballistic flight will extend to the ozonesphere, where electrodynamic phenomenons which are characteristic of great rarefaction could help in supporting the airplane. Anyway, since the main obstacle to ballistic speeds is the air, we are justified in thinking of rarefying it as much as possible. This revolutionary characteristic of the probable new human conquest leads to believe that the result of present investigations are only isolated elements of a potential nature. They can be neither reckoned nor measured until a new idea will be born which will associate and value them altogether. Thus at Guidonia, in the stratospheric channel, aerodynamic ballistic is studied. In the General Aerodynamic Laboratory of our Engineer's School of Rome, stratospheric energy is explored. At the flying field of Montecelio, special devices for human respiration in the vacuum are experimented.

Let us leave the field of ballistic speed which is still unexplored. Let us consider the field of aeronautical speed. Practically aeronautical speed reaches a limit a little over 800 kms. p.h. The unbeaten record of Lt. Agello at Desenzano has covered the largest part of such field by surpassing 700 kms. p.h. We have come, therefore, very near the point where drag coefficient abruptly increases and lift coefficient decreases. Within this limit there is still a large margin for common aircrafts, as the question is to double the present speed of civil and military airplanes. The problems here are no more of an aerodynamic but of a constructive nature; such as improving the streamlining, applying more powerful engines and above all, providing for new cooling system. All these problems are now known and it is of little importance to investigate whether the land plane will be in more or less advantageous conditions compared with the seaplane to improve the present speed. Researches will proceed gradually but unceasingly. Therefore, if ballistic-flight is only a future eventuality and Agello's flight is only an anticipation, the continuous improvement of standard airplane speed, together with the capacity of heavy useful load, is now quite tangible.

Unfortunately the race to armaments polarized all aviation development in the military field. While some nations tear themselves to pieces within their borders, while savage man's instinct menaces to destroy civilization and while the instinctive barbarity breaks all bounds of law and religion, the most sane and poised people are forming an alliance between themselves in order to defend their existence and the existence of humanity. During these troubled times the progress of great inventions becomes more rapid, but its characters are deeply modified, especially in the field of scientific ideals. Science becomes positive. Speculative enquiry yields to realism. One does not sow but harvest; one does not look at the future but at the imminent. The daily diffusion of cultural news is veiled with reticence, and all activities are masked with the military secret. * * Progress needs peace in order to materialize. We no more live in the times of Archimede who pursued its theorem within his own brain while Romans were sacking Syracuse. Today, the brain needs laboratories, experimental plants, workshops, raw materials, energy, cooperation. All this cannot exist without a great security within the borders and on the sky, or without a firm discipline among the people or without a leading and strong will power.

UMBERTO SAVOIA AND CELESTINO ROSATELLI
of the "Aeronautica d'Italia Fiat"

Civil and military aviation is now pegged with its series material on a standard near to 300 kilometres an hour. What problems must be solved before the standard of 500 kilometres can be passed on to, which has now been clearly announced by most recent experimental prototypes machines?

There is no difficulty in stating that the speed of 500 kilometres can be reached in the near future as a normal standard for some particular civil airplanes and for some special services. This will not be very easy, however, especially if comfort and safety are not to be sacrificed. Further improvements of the streamlining is required, which can be summed up as follows in regard to the fuselage:

1. Reduction of all harmful spaces and therefore the chief section, and better retractability of the landing gear, the tail wheel, the wireless antennas, etc.

2. Generalization of instrument-flight and further reduction of the present wind screen.

3. Increase of smoothness of the covering surfaces with the use of suitable varnishes and introduction of nails with hidden heads.

The ideas of paragraph 1 are the most important because with them it is possible to obtain an increase of speed which, according to the latest hopes, can reach 25%. With reference to the body, improvements of the aerofoils can be taken into consideration too, and the use of higher wing-loading in connection with the spreading of super-lifting devices. There is no exaggeration in foreseeing that when all means are turned to and without worrying too much about the cost, a fineness in all the airplane can be reached of about 35% more than that which is usually reached now, since as matters stand at present, civil twin-engined air-

planes could exist with 2000 h.p., capable of reaching 430 kilometers at an altitude of 4000 meters, and the saving mentioned above would become an increase of about 10%. The specific power of the engines has not yet been mentioned however. In this regard the greatest obstacle for increase of power is represented by cooling. A reduction of the surface required for the radiators would be obtained if the problem of engines cooled with liquid at 130-135 degrees could be resolved. An increase of power would not, therefore, mean an increase of drag with a result amounting to next to nothing. Five hundred kilometers an hour could then be reached easily and perhaps exceeded.

Do you think that regular air navigation in a near future, within fifteen or twenty years from now for instance, will get near to navigation altitudes close to the world's record?

The problem of flying at stratospheric altitudes with the exception of record flights has difficulties which can now be described as insurmountable. The integral high altitude engine has still to become an accomplished fact, namely, to be capable of giving a constant power for all the altitude on account of technical reasons concerning supercharging and cooling. In spite of the very low temperature and the great speed of the aircraft, cooling of the engines at altitude is almost out of the question on account of the lower density of the air, and if architecture is not to be radically changed. This would mean making it cumbersome and therefore harmful for the purposes of good penetration which is being looked for with altitude. And the supercharger which should establish the same pressure at 10,000 meters as on land, would cause such an enormous heating of the air as to become an obstacle for the engine's working.

Leaving aside the problems of the engines, of the propellers and of the support, there is another with much greater difficulties, namely, if it is possible to live in the aircraft. It is true that like Jules Verne, it is not difficult to think about hermetically closed cabins and supplied with air from suitable compressors, but the problem of flight is first of all a problem of weight, and nobody stops to dwell on the insurmountable difficulties to be met with on this path. The cabin would have to be completely air-tight and be able to hold out against working pressures from the inside to the outside of about 7000 Kg. per square meter. Further, all the problems exist in regard to the passage of the control-cables and not on account of the difficulty in itself, but owing to the enormous burdens of weight they bring about. It is quite out of place, however, to proceed any further with the examination as there is nothing else to be done but to come to the conclusion that flights at very high altitudes will remain for a long time in the field of sport without useful, practical and safe applications.

Ed. Note: This concludes the quotations made of special articles on various aspects of aviation, present and future, which appeared in the first international issue of the Italian aviation journal L'ALA D'ITALIA, published recently. These articles were printed in five different languages, namely, Italian, Englis h, French, Spanish and German. One reading these articles - the contributions of eminent men prominent in aviation affairs - cannot fail but be impressed by the serious thought and deep study which the subject of aviation is receiving in countries beyond our borders.

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35TH DIVISION AVIATION HAS NEW OFFICERS' CLUB

Officers of the 35th Division Aviation, Missouri National Guard, invite with no little pride Air Corps personnel and others connected with aviation to visit the new officers' club, located in the new addition to the hangar building at Lambert-St. Louis Municipal Airport, Robertson, Mo.

The club room has been decorated in unique style. The walls are covered with photo murals consisting of inter-related aviation subjects. The murals over the fireplace depict the first flight of the Wright Brothers at Kitty Hawk, and was made from the original picture autographed by Orville Wright. A beamed ceiling is paneled with paintings of 148 Air Corps insignias, including foreign insignias in addition to those representing Air Corps and National Guard organizations.

The pride and joy of the Missouri airmen is a bronzed frieze, 10½ feet long, 30 inches high, into which are modeled portrait likenesses of the officer personnel of the Squadron at the time Lieut. Colonel P.R. Love was leaving to assume his new duties as Division Air Officer. This was hung in a most appropriate place in the clubroom. A bust figure of Colonel Love is in the center and is surrounded by seventeen other heads arranged against a background of sky filled in minute detail with various types of planes, clouds, and landscape. The frieze was obtained by the Squadron through its friendship with Mr. E.A. Siebert, a St. Louis sculptor, who executed the bas-relief and presented it to the organization.

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INSTRUMENT REPAIR BUILDING FOR HAWAIIAN DEPOT

Construction has started on a new Instrument Repair Building for the Hawaiian Air Depot. The structure will be 22 feet by 55 feet. This additional unit has been badly needed for some time. In the past it has been necessary to send a large number of instruments to the mainland for overhaul. With the addition of this new building, however, all this work will be accomplished locally. The building has been especially designed for this work. Double walls will be provided to prevent the entry of dust, dirt and other foreign matter from the exterior. All air entering the building will be filtered through a ventilating system.

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The 23rd Bombardment Squadron, Luke Field, T.H., lost one of its Staff Sergeants, John Zane, who died at Tripler General Hospital on the morning of November 19th. Sergeant Zane was well liked in the Squadron and was a competent noncommissioned officer.